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Original Articles

AN OSTEOPATHIC CONSIDERATION OF CATARRHAL DEAFNESS

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During the past few years we have spent considerable study on the anatomical relations of the various parts of the naso-pharynx, particularly the Eustachian tube, fossa of Rosenmüller, soft palate and tube tonsil of Gerlach, to catarrhal deafness.

We have arrived at the conclusion that deafness in these cases is due to the mechanical effects upon these structures of the catarrhal inflammation, which is the primary etiological factor in this condition. We believe that these inflammatory sequelae in the form of adhesions, indurations, contractions and vegetative growths can be removed by proper mechanical treatment, and that under such treatment the prognosis in an ordinary case of catarrhal deafness is good.

This conception of the local cause and treatment of this common condition is osteopathic and original. It was first reported by James D. Edwards, D. O., in a paper read before the American Osteopathic Association at Kirksville, August 8, 1913, and is here set forth more at length with the advantages of more detailed study and further clinical reports.

ANATOMY AND PHYSIOLOGY.

The Eustachian tube, an essential part of the auditory apparatus, measures about an inch and and a half in length. It forms with the horizontal plane an angle of from 30° to 40°, with the sagittal plane an angle of about 45°, and with the bony part of the external meatus, an angle of 135° to 140°. The tube of the child differs from that of the adult; its lumen is relatively wider, its direction more horizontal, and its *pars ossea* relatively shorter. The pharyngeal orifice at birth is on a level with the hard palate, while at the fourth year it is 3 to 4 mm., and in the adult 10 mm., above it.

The tube presents, on longitudinal section, somewhat the appearance of an hour glass. The two parts, however, are not in the same plane; the cartilaginous

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EDITOR'S NOTE: Dr. Granberry wishes to state in reference to this article, that the original work and conclusions expressed therein are contributed by Dr. Edwards and he alone is responsible therefor, and to him alone belongs the credit. Dr. Granberry became interested in the subject, visited Dr. Edwards in St. Louis, acquainted himself with his methods and is responsible for the presentation of his work as given. His clinical and other research work since the visit to Dr. Edwards' clinic has corroborated Dr. Edwards' findings, but Dr. Granberry wishes it thoroughly understood that he has not investigated the matter at sufficient length or with sufficient time to justify him in presenting the original and radical conclusions of Dr. Edwards as his own. He has assisted in the preparation of this article and done some preliminary work which confirms the conclusions given but the credit for this report and the responsibility for the original reasoning and methods here given belong entirely to Dr. Edwards.

Dr. Edwards wishes to state that the inspiration and suggestion for his initial investigations came from Dr. J. Deason, of the A. T. Still Research Institute.

portion inclining downwards a little more than the osseous and forming with it a wide angle. The cartilaginous portion has a length of about one inch, and the osseous portion half an inch.

The lumen is widest at the pharyngeal orifice, and narrowest at the junction of the cartilaginous and osseous portions, forming here the isthmus, and again expanding towards the tympanic cavity. The cartilaginous portion presents the form of an elongated triangular plate, of which the apex is firmly attached at the isthmus, the base being free and movable.

The pharyngeal orifice has the appearance of a vertical slit, and measures about two-thirds of an inch in diameter. Numerous mucous glands open into the tube near the orifice, and there also exists on its posterior lip a considerable amount of adenoid tissue which constitutes the "tube tonsil" of Gerlach. This adenoid tissue is continuous with that of the naso-pharynx and is well developed in the child.

The mucous lining of the tube is continuous with that of the tympanum and naso-pharynx. It is thin and firmly fixed to the bony wall, while in the cartiliginous portion it is loose and thrown into longitudinal folds.

The muscles which open and close this slit-like orifice are covered with mucous membrane and form anteriorly the plica-salpingo-pharyngeal and the plica-salpingo-palatine which descend respectively from the lower end of the Eustachian cushion and from the anterior border of the Eustachian orifice to the palate and pharynx.

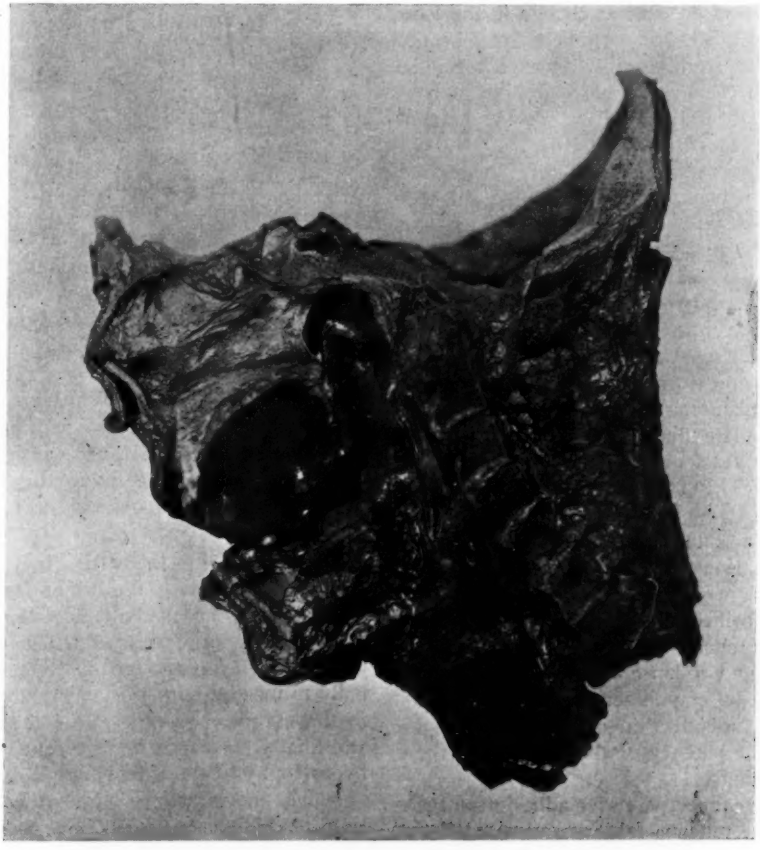
The lumen of the cartilaginous portion of the Eustachian tube is entirely dependent upon the proper relation of these structures. Behind the Eustachian orifice is a firm prominence, the cushion, or tube tonsil of Gerlach, while between this cushion and the posterior wall of the pharynx is a deep recess, the fossa of Rosenmüller. All of these structures are covered with columnar ciliated epithelium, beneath which are a large number of racemose mucous glands. This mucous membrane is very loose and vascular and in many places has a submucous layer of lymphoid tissue. The soft palate consists of a fold of mucous membrane enclosing muscular fibres, an aponeurosis, vessels, nerves, adenoid tissue and mucous glands.

The changes produced in the structures just named by chronic inflammation of the throat, ordinary catarrh, are thickening and hypertrophy of the mucous membrane throughout the naso-pharynx, induration of the tube tonsil, formation of adhesions between adjacent folds of the mucous membrane, particularly in the fossa of Rosenmüller and in the orifice of the Eustachian tube, hypertrophy, induration, contraction and elevation of the soft palate above its normal position. We are leaving out of consideration changes in the nose itself like hypertrophy of the turbinals, deflected septum, et cetera, which must be corrected surgically. The changes in the naso-pharynx named above are especially amenable to osteopathic treatment which will be described presently

The middle ear depends for its function upon equal atmospheric pressure on both sides of the membrana tympani. When the Eustachian tube is occluded, rarefaction of air takes place in this cavity, whereupon the consequent diminution of pressure allows an increased concavity and inward bulging of the drumhead. If the normal pressure is restored within a short time no harm will result, but if the negative pressure continues over weeks, months or years, ossicular fixation, thickened drumhead, and impaction of the otoliths in the organ of Corti will take place with a subsequent retardation of impulses to the cochlea.

This is the ordinary course of events in a case of catarrhal deafness, as litttle by little the catarrh destroys the patency of the tube and step by step along with its occlusion, the delicacy of hearing diminishes.

In some cases, particularly those of long standing, even establishing the patency of the Eustachian tube will have little or no effect, for by that time connective tissue changes will have taken place which are permanent. But in about 75 per cent. of our cases restoring and maintaining the patency of the tube will produce a complete restoration of normal hearing.



Sagittal section of head showing normal orifice of Eustachian Tube, Tonsil of Gerlach, and fossa of Rosenmuller. Dissection by J. D. Edwards

Mackensie and others call our attention to the fact that the inferior parts of the middle and superior turbinates and the tuberculum septi are covered with a tissue as truly erectile as, and closely analogous to, the erectile tissue of the sexual organs. Moreover, through the medium of the deep petrosal nerve and the spheno-palatine ganglion, connection is established between the nervous mechanism of the nose and throat and the sympathetic system. Holding in mind the function of this system with its vasomotor control of the calibre of the minute blood vessels and cavernous spaces with their interposed elastic fibres, it is easily seen that the psychic and nervous mechanism which produces that flow of blood into the cutaneous and subcutaneous spaces of the cheek and forehead, known as blushing, will, under the same or similar influences send it to the erectile tissue of the nose where the resistence is much less. If this stim-

ulus is long continued or many times repeated, as would obtain in certain abnormal conditions of the sexual apparatus, the tissues in the naso-pharynx will develop into a condition of chronic congestion leading to permanent inflammatory changes. Inspection of the naso-pharynx before and after prostatic massage or adjustment of uterine abnormalities shows an evident change in the vascular condition of the mucous membrane, and also from results gained in the nose and throat by the correction of pathological conditions of the pelvis, we are convinced that reflex disturbances from the generative organs are important causes of catarrhal adhesions and vegetative growths in the naso-pharynx.

In about 75 per cent. of our cases of catarrhal deafness we have found the soft palate hypertrophied with a marked elevation into the naso-pharynx. This elevation obstructs the passage of exudates and forms a recess or reservoir which causes muco-purulent material to accumulate directly in contact with the pharyngeal orifice of the Eustachian tube. This condition we believe one of the most important in its etiological relation to catarrhal deafness, as this accumulation of mucous and pus will directly and progressively occlude the Eustachian orifice and lead finally to adhesions of the mucous folds about and within the tube, and collapse of the orifice. Catheterization or politzerization will have little or no effect in attempting to maintain the patency of the tube under these conditions.

The connective tissue adhesions attaching the mucous folds are very small and are overlooked by the pharynoscope. They may be detected only by examining the naso-pharynx and the folds about the tube with the cushion of the index finger. The folds will appear to be indurated and the examiner will be unable to sink the cushion of his finger into the orifice. This is easily to be accomplished under normal conditions.

The attempt to introduce the finger into the orifice of the tube will often cause a sharp pain to shoot through the aural apparatus and very often to the vertex. This is explained by the association of Meckel's, otic, geniculate and submaxillary ganglia. The anatomical relation of these ganglia is important. The fibres from Meckel's are distributed to the palate and tissues about the orifice of the Eustachian tube; the otic fibres to the tensor palati and tensor tympani. The fibres from the geniculate ganglion reach Merkel's through the large superficial petrosal nerve; the otic through the small superficial petrosal. The submaxillary gains its intimacy with these through the chorda tympani branch and it is our desire especially to emphasize all these associations. Considering the muscular and ligamentous relations in connection with this far-reaching sympathetic network, it is evident that the adjustment of the hyoid and temporo-mandibular articulations, accompanied by deep submaxillary relaxation, will modify the nervous impulses to the whole region under discussion and materially assist in controlling the circulation throughout the naso-pharynx and ear.

The folds within the cartilaginous portion of the tube near the orifice form an excellent support for the endogenous and exogenous precipitates of chronic catarrh, which accumulation leads gradually to membranous thickening, the formation of patches of dense induration, and finally to atresia of the tube. The hypertrophy of these folds acts as a trap or valve, and interferes with catheterization or politzerization. They may be eliminated only by the insertion of the finger into the tube, followed by rotation and traction from within outward, thereby destroying their origin.

The nasopharynx being a cavity with no movement, any anatomo-pathological condition within it may make rapid progress. Any hyperthrophy or atrophy of the external wall will, owing to the mobility of the cartilaginous portion of the

tube, necessarily disturb the position of the orifice, and interfere with the normal angle and drainage. The abnormal traction and disturbed position of the orifice will increase the flexion at the isthmus with a consequent atresia.

It has been the practice of the medical specialist to confine his treatment of the ear, nose and throat for partial deafness

Showing method of relaxing submaxillary region for diagnostic purposes

to such measures as massage of the drum by instrumental means, catheterization or politzerization of the Eustachian tube and freeing the nose and pharynx of bony or vegetative obstructions by surgical means. Our research into the mechanical conditions present in the tube and nasopharynx, as set forth above, explain why the otologist has been so notably unsuccessful in his treatment of this common and distressing condition. The sum of the matter is that to restore the patency of the Eustachian tube, direct local manipulation is necessary. In devising the technique given below, we have applied only ordinary accepted osteopathic principles, and it must be thoroughly understood that success in the treatment of catarrhal deafness, as in other similar specialties, rests upon the support given by proper osteopathic care, not only of the parts in immediate relation with the head, such as the cervical and upper dorsal vertebrae, but of the whole body.

TECHNIQUE OF EXAMINATION AND TREATMENT

When examining a patient to determine the degree of partial deafness an aurometer is used, which is a very simple and efficient arrangement. The instrument can be very easily constructed by taking a wooden one-foot ruler and

placing a small brass hook at each inch mark. To avoid the vibration being carried to the aural centre, a small rubber band is tied to the stem of a cheap watch which has a loud tick. With one end of the ruler held against the patient's head, the watch is hung by the rubber band upon the hook at the first inch and moved outward inch by inch to the point at which the patient fails to appreciate the sound. The figure registered at the last mark is recorded for that date.

Next an attempt is made to make an impression with the sound test. Placing the watch upon the ear we spring the mandible and relax the submaxillary and hyoid tissues deeply and persistently from the angle to the symphysis, keeping the watch upon the ear throughout the manipulation, and instructing the patient to notice if he detects any changes in the sound impulses.

In a large number of cases the sound impulses will be either increased or diminished. This is explained by traction upon the walls of the nasopharynx, and upon the soft palate and by the modification of ganglionic impulses. If the changes in intensity of the watch ticks are marked, the case will usually respond rapidly to treatment.

Following the usual routine examination of the nasopharynx, the parts are thoroughly cleansed by spraying through the anterior and posterior nares with some mild antiseptic fluid. For spraying the post nasal tissues the post nasal syringe is used. It should be passed behind the uvula, upward and forward into the nasopharynx in order to flush the tubal orifices, the fluid draining forward through the anterior nares. This method of cleansing will very often cause slight hemorrhages which are the result of the tearing of small adhesions by the force of the spray. The compressed air system, about thirty pound pressure, is of great advantage here. It will often disturb the pus-pockets and recesses of mucu-purulent material, thereby giving a more satisfactory cleansing to the whole tract. If the pharynx is very sensitive, the uvula and adjacent tissues may be swabbed with a 4 per cent. solution of cocaine, care being taken not to allow the cocaine to drip upon the lower structures. The tubal orifices may also be swabbed with the same solution, by passing a flexible applicator through the anterior nares, fitting it in the same way a Eustachian catheter is fitted. It should be allowed to remain in the orifices several minutes to properly anesthetize the tissues.

The nail of the index finger should be trimmed below the cushion; the finger should be thoroughly cleansed and lubricated. A 50 per cent. solution of iodine and glycerine makes a very good antiseptic lubricant. The patient lying upon the table in the dorsal position, a mouth gag is placed between the teeth and supported by the free hand. The index finger of the working hand, the right finger for the right tube, and vice versa, is then passed behind the uvula, upward and forward into the nasopharynx, guided by the fossa of Rosenmüller and tube tonsil of Gerlach, and the tissues are examined for the following conditions:

1. Orifice: (a) Whether opened or closed; (b) its position; (c) whether hypertrophied or atrophied; (d) soft, congested or indurated; (e) condition of the plicas.
2. Vegetative growth;
3. Soft palate, for hypertrophy, and its relation to the orifice;
4. Nasopharyngeal adhesions;
5. Recesses and pus-pockets;
6. Tumefactions;
7. Lateral Walls: (a) Smooth or rough; (b) soft or hard;
8. Depth of fossa of Rosenmüller;
9. Tube tonsil for hypertrophy or atrophy;
10. Condition of vomer and its position;
11. Enlarged tubinates obstructing posterior nares;
12. Nasopharyngeal floor and the angle of the soft palate.

The operator should understand the pathology of the mucous membrane in order readily to identify the morbid conditions, which are precipitated by chronic catarrh in the nasopharynx. If the orifice is found closed or partially obstructed and the nasopharynx filled with adhesions or other abnormal conditions, to eight weeks before attempting to open the orifice.

The preparatory work should require three treatments a week, consisting of osteopathic corrections, the removal of adhesions, cleansing of pus-pockets, recesses, etc., manipulation of the lateral walls of the nasopharynx to stimulate

Same section as I, showing finger of operator about to enter Eustachian orifice

the operator should not attempt to open the tube until this abnormality is corrected and the morbid tissues dissected away from about the orifices; otherwise, owing to the continuity of tissue between the nasopharynx and tympanum, an infection of the middle ear may develop. In some cases we have found it necessary to treat the nasopharynx from two the vascular and nervous innervation and the springing of the soft palate downward and forward to obtain better pharyngeal drainage. The adjustment of the bony osteopathic lesions and the deep persistent relaxation of the submaxillary and hyoid tissues during the preparatory work, give very satisfactory results and materially assist absorption

following the radical treatment. The patient's habits and diet should be corrected and he should be instructed to spray the nares and gargle the throat with some mild antiseptic solution at least twice a day, and following each meal, if possible.

Following the preparatory work the orifice should be anesthetized in the manner already described. The index finger is then passed behind the uvula upward and forward into the nasopharynx to the pharyngeal orifice and by a slow rotary movement of the cushion of the finger the orifice may be sprung open and the finger enters the cartilaginous portion of the Eustachian tube from one-quarter to one-half inch. The minute adhesions will be felt to break and loosen as the finger is forced upward. This breaking and tearing will cause the patient a great deal of pain, but he should be cautioned to expect it and will as a rule appreciate the necessity of the procedure. In some cases the operation will be followed by considerable hemorrhage, which may be easily arrested by spraying the nasopharynx with some mild antiseptic solution. The patient should be instructed to spray the anterior nares twice a day in order properly to cleanse and drain the exudates which will develop during the process of granulation.

The second day following the operation the tube should be politzerized, by direct inflation. On the fourth day the orifice should be examined for granulations and politzerized, the lateral walls of the nasopharynx manipulated to stimulate the vascular supply and the soft palate gently sprung downward to obtain proper pharyngeal drainage. At each treatment the nasopharynx should be cleansed thoroughly and the deep submaxillary cervical, hyoid, and upper dorsal tissues should be relaxed and any lesions adjusted. The post-operative work depends upon the condition of the nasopharynx. Some cases require very close attention, those especially with extensive causative factors, in order to maintain the patency of the orifice. Very often the radical treatment will develop a secondary congestion of the membranous lining of the cartilaginous portion of the tube, and the patient will complain of increased deafness, in some cases becoming very much alarmed. The patient should be cautioned to expect this and direct inflation supported by osteopathic treatment and proper cleansing of the nasopharynx will give relief in a very few days.

The orifice should be swabbed and the nasopharynx thoroughly cleansed before any politzerization or catheterization One of the greatest difficulties the operator will meet with is the rapid accumulation of granulation tissue within the orifice. This will necessitate careful attention in order to avoid extensive cicatrical contractions. The cartilaginous portion of the tube should be dilated with the finger once every two weeks and the tissues about the orifice manipulated twice every week. If the patient should suffer extreme tenderness following the operation, he should be instructed to use cold packs to the submaxillary and hyoid region. This will dissipate the congestion quite readily.

The radical treatment will very often restore 50 to 75 per cent. normal functions following the first operation, and some cases have been cured within a few weeks. Other cases have required from two to ten months to eliminate the trouble owing to the lowered resistance of the patient and extensive causative factors.

We have had most encouraging success; in something over one thousand cases, normal hearing has been restored in about 75 per cent. We have never had an infection of the middle ear or other untoward result from our procedures and believe that with proper care and attention to cleanliness it is entirely safe A few records of average cases are appended.

Patient aged 12, female. History of partial deafness eight years. Examination showed inward bulging of drumhead, tissue about the pharyngeal orifice swollen and indurated with remnants of adenoids. A mass of vegetative growths had been removed about three years previous but failed to relieve the partial deafness. I found the axis rotated to the right, hyoid tipped to the left, and the submaxillary tissues extremely tender. Remnants of adenoids were removed, orifice opened and the indurated tissues loosened up with the adjustment of axis and hyoid. The normal hearing was restored in three treatments.

Patient aged 27; occupation, traveling salesman. History of partial deafness for two years. He was an excessive smoker of very strong cigars and expelled the smoke through the nose constantly. I found the naso-pharynx badly congested and the orifice of the tube indurated, and partially closed, the tar from the smoke having precipitated about it. The orifice was cleansed and sprung open, painted with tincture of iodine and patient was instructed to stop smoking. Cervical and submaxillary tissues were relaxed to obtain better pharyngeal drainage with politzerization once a week. There were no bony lesions. Normal hearing was restored in one month.

Patient aged 46. Partial deafness for three years, with a history of chronic catarrh for four years. Naso-pharynx was filled with connective tissue adhesions and mucous folds swollen and indurated and orifice partially closed. Second and third dorsals were anterior. These were corrected and the naso-pharynx cleansed, and orifice forced open. Normal hearing was restored in five weeks.

Patient aged 45; female. Partial deafness of twenty-seven years' standing. Unable to hear the alarm clock three inches from ear.

Naso-pharynx and drumhead congested. Orifice partially closed and very tight. Soft palate hypertrophied and tinnitus aurium. Submaxillary tissues very tender and hyoid located deeply beneath the mandible. Fourth and fifth dorsal rotated to right, axis to left. We sprang the soft plate and manipulated the pharyngeal orifice. Cervical and upper dorsal treatment; correction of diet. Politzerization once a week. Patient is now able to hear the alarm clock across the room. Better condition and can use telephone. Headache and tinnitus relieved in four treatments. Case still under treatment, having been treated seven months.

Patient aged 60; male; occupation, farmer. Partial deafness for two years. Pulse 50. Complained of difficult micturition. Examination showed prostrate enlarged and extremely tender.

Drumhead clear but canal anemic. I attributed the partial deafness to anemia of the labyrinth and thickened drumhead. Internal massage of the prostrate corrected the micturition and seemed to adjust the circulation to the ear which I presume was delivered through the sympathetics. The patient was strictly dieted and general treatment given. Case was dismissed with normal hearing in two months. Prominent specialists of St. Louis had failed on this case.

Patient aged 21; female. Partial deafness three years. Drumhead and naso-pharynx congested with very severe tinnitus. Orifice partially closed and filled with adhesions. Throbbing earache at intervals. Right ovary congested and uterus retro-verted. Dysmenorrhea very bad which could only be relieved during the period by swabbing the anterior nares with 5 per cent. solution of cocaine. Fourth and fifth lumbar to right. The reduction of the osteopathic lesions, replacement of the uterus and swabbing the naso-pharynx with tincture of iodine and orifice forced open relieved the distressing symptoms in three treatments and restored the normal hearing in six weeks.

Patent female; aged 35. Partial deafness followed scarlet fever at age of 8. Lip reader; examination showed both orifice closed and naso-pharynx badly congested and soft palate greatly hypertrophied. The orifices were fifth treatment patient heard the piano for the first time since she was 12 years of age. After sixth treatment she heard motor horn first time in her lift. After seventh treatment she was able to appreciate small call bells on table and street car bells. Still under treatment (six months in all) and improving rapidly.

Patient aged 26. Partial deafness followed measles when aged 7. Good lip reader. Found both orifices closed. Soft palate enlarged and inferior turbinates hypertrophied and blocking the orifices. These were removed and orifice forced open and second operation restored the hearing of the watch to left ear six inches away; had not heard a watch for ten years. Still under treatment and improving.

Patient aged 46; female. Partial deafness at intervals during the year past. Trobbing earache. Bony margin of the drumhead and pharyngeal orifice badly congested and closed. Pulse 98; normal temperature and considerable gastric disturbance; second to seventh dorsal anterior. Case diagnosed as hypoacidity and instructed to take lemon and water before each meal. Dietetic and osteopathic adjustment restored the normal hearing in twelve treatments.

TECHNIQUE PROBLEMS

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The following are merely suggestive of a few of the technique problems presented daily in the treating room. The observing clinician will have no difficulty in applying the fundamental principles herein expressed. There are innumerable combinations and gradations of these factors. Naturally there are several arbitrary divisions; this is all very well, as it aids in elucidation provided one does not lose sight of the total clinical picture, both pathologically and therapeutically. Our special object in this article is to stimulate the student of technique to make a more careful analysis of his cases. Precise observation and definite therapeutics go together with added satisfaction in results.

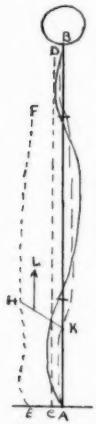


Fig. 1.

Figure 1 is highly diagrammatic. The curved solid line AB represents a lateral view of the normal spine. The straight solid line AB the longitudinal axis of the spine; this, in a rough way, corresponds to the line of gravity of the bony column. The line CD is the line of gravity of the living body. Care should be taken that these two lines are not confused. See page 27, September Journal.

Figures 2, 3, 4, roughly sketched from Tasker's "Principles," illustrate the center of rotation of the fourth cervical, seventh dorsal, and third lumbar, respectively. These are representative of the center of rotation from the viewpoint of the axis AB in Fig. 1. But the problem of the living subject is far more complicated. (This is not to be interpreted that Dr. Tasker rests the solution of the problem at this point.) In addition to this there are at least two other definite mechanical factors: first, the center of rotation of the individual vertebra, varying according to location; and, secondly, the line CD, Figure 1, which represents the gravity line, and thus the axis, of the living body. Consequently the mechanics of rotation alone are exceedingly complex, and this does not specially consider variation in shape of the vertebrae, discs, muscular and ligamentous tension developmental factors, poise, etc.

Referring again to Figure 1, if the line CD is carried downward to the base of support, it passes in front of the knee and ankle joints. The greatest strain in the erect position is thus brought upon the erector spinae, hamstrings, quadriceps extensors, and gastrocnemius muscles. Now, through lesions, faulty posture, ptosis, tumors, faulty development, etc., the line CD is frequently shifted forward with a consequent increased vertical stress, at each level, upon the posterior musculature. The variations and complications may be innumerable.

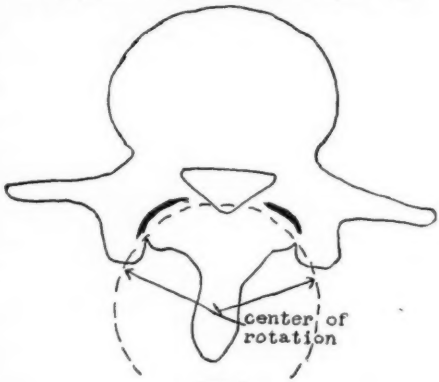


Fig. 2.

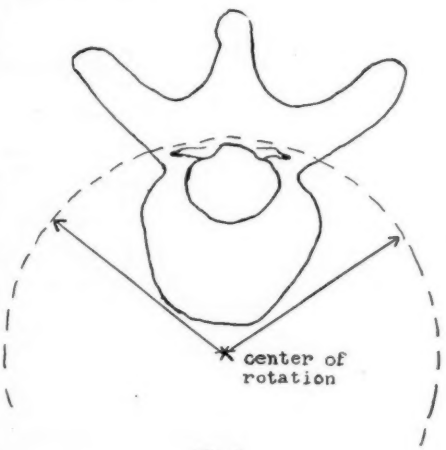


Fig. 3.

The broken curved line AB represents a common spinal configuration due to faulty development. Retarded development and formation of the physiologic curves concomitant with retardation of the normal position of the viscera, resulting in enteroptosis, is of common occurrence as every practician is well

aware. In the broken line AB the greatest convexity is near the dorso-lumbar junction, the characteristic of early childhood, instead of having shifted as it normally should by the eighth to tenth years to near the mid-dorsal region. Of course, in technique we have to consider the many causes, that are possible, due to lack of normal development and configuration. The broken line EF represents the anterior aspect of the body—commonly flat chest, oblique lower ribs, pendulous abdomen.

The line HK illustrates the diaphragm. The muscles of forced expiration are usually weak. The parietes of the abdomen, the quadratus lumborum, posticus inferior, as well as the diaphragm itself are flabby. The diaphragm does not dome upon expiration and the viscera remain as a gravity mass during respiration. We have spoken of this, and its technique, so many times in other writings that we will not go into details here. The arrow L is to call attention to the central tendon of the abdomen, which is certainly a

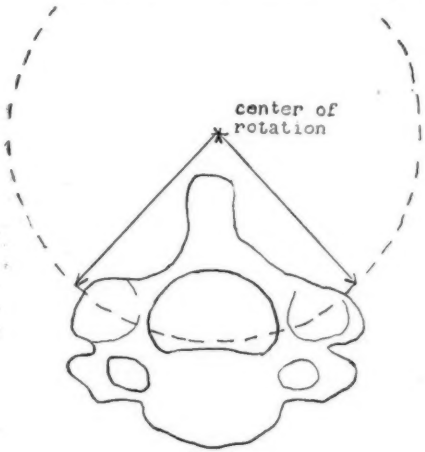


Fig. 4.

very important factor to consider in these conditions. There are probably no more trying cases than these after they have reached adult life. Persistency and consistency from innumerable angles are demanded.

In addition to manipulative work and hygienic measures, exercises that retract and elevate the abdomen, and that corrects the vitiated breathing through developing the muscles of forced expiration, are of great value. Then stretching the coracoid muscles will also be of aid in overcoming the stooped posture.

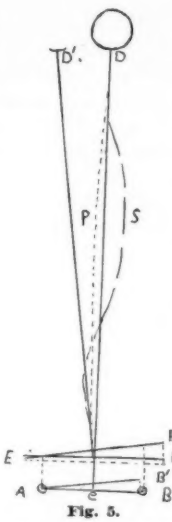


Fig. 5.

In Fig. 5 we have combined two diagrams, and with some additions, to be found in J. S. K. Smith's little book on "Lateral Curvature of the Spine and Flat-Foot." The points AB represent the bearing surfaces of the acetabula, and EF the anterior superior spines of the ilia. Tilt AB into the position AB', then EF is exaggerated in the EF'. BB represents the difference in the length of the legs.

The line CD represents the spinal column. If the pelvis is tilted as described in above paragraph, the spinal column would tend to be tilted as in CD'. Instinctively the equilibration would establish the postural curve P. Should this curve not thoroughly compensate, or the tilting constantly increase, or general nutritive conditions become greatly impaired probably, a structural curve S would result. If the original tilting is reversed the curvature will be reversed.

Smith roughly outlines the upright column as twenty-six inches and the acetabular platform as six and one-half inches. The distance BB' is to AB as DD' is to CD. The tilting of the pelvis due to inequality of the length of the legs tends to swing the top of the spinal column four times as far from the middle line as the acetabular platform is tilted. For example, a tilt of one-half inch tends to swing the top of the spinal column two inches from the middle line. (The line CD' should angle a little lower.)

No doubt asymmetry of the body is of common occurence. In osteopathic work we are specially concerned with asymmetrical considerations when the entire lateral half of the body is involved, or one-half of the trunk, or one leg, or combinations of these units. Many times asymmetery is congenital. There are a goodly percentage of cases that are acquired. Different types of paralyses, osteopathic lesions of pelvis and spinal column, flat-foot (unilateral), and deformities of the bones and joints of the leg are the principal acquired causes. Asymmetry may not cause any

disturbance or symptoms unless the lesions is marked or the general health becomes impaired.

The diagram Figure 6, with some additions, is from Tubby's orthopedic work. I to II is the distance from the sternal notch to the anterior superior spines. (Patient in a recumbent position. Diagram illustrates patient facing observer.) II to III is the measurement from the anterior superior spines to the internal malleoli.

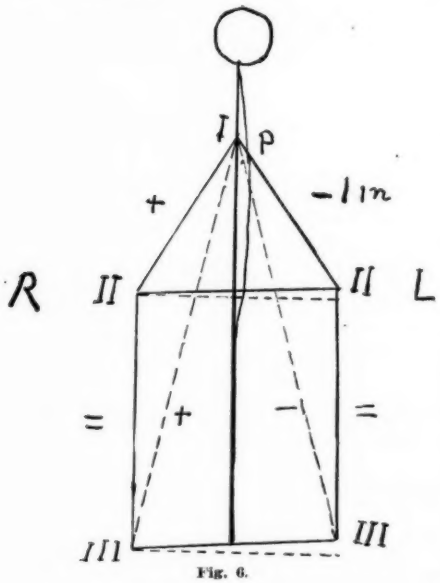


Fig. 6.

Tubby states it thus: "In the trunk, RI. to III. is greater than II to III., but RI. to II. is also greater than LI to II. and R II. to III. equals L II. to III., i. e., it is the left side of the trunk, which alone is small." As a rule the lumbar spine deviates to that side of the pelvis which drops. The deviation will be noticed in both sitting and standing, and we have drawn the curved line P to show the probable compensatory functional or postural curvature.

Two other diagrams are given illustrating two other instances of simple asymmetry. First, the halves of the trunk are equal, but the left leg is shorter than the right. This will be noticed in standing only. Second, the left side of the trunk is smaller than the right, and the left leg is shorter than the right. This will be noted in both standing and sitting.

Crossed asymmetry is of two kinds: (a) non-compensated, by lengthening elsewhere; (b) compensated, by lengthening elsewhere, according to the above author. This diagram,

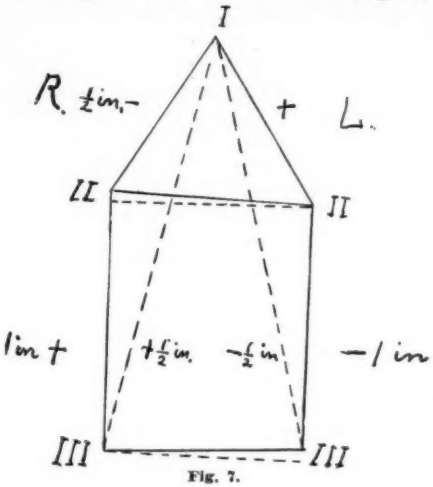


Fig. 7.

Figure 7, depicts crossed asymmetry, non-compensated. RI. to III. is greater than LI. to III. The right side of the trunk is smaller than the left, and the right leg is longer than the left, but the compensation is not complete. The pelvis drops to the left side in standing and to the right in sitting. Orthopedically, then, correction is made beneath the right side in sitting and the left side in standing, i. e. in standing RI. to III. is greater than LI. to III. Frequently from an osteopathic adjustment viewpoint, adjustment of lesions will correct the asymmetry. There are congenital cases, of course, as well as serious and marked acquired conditions wherein a pad under the ischium and a building up of the boot, according to requirements, that will aid materially.

The other instance of crossed asymmetry, non-compensated, would be (we have not drawn diagram) where RI. to III. greater than LI. to III; that is the measurement from the sternal notch to the internal malleolus is greater on the right side than on the left. The right side of the trunk is larger than the left, but the right leg is shorter than the left, and the compensation is not complete, i. e. RI. to III. is greater than LI. to III. The greater length of the left leg as compared with the right does not compensate for the greater length of the trunk on the right side, and the left side of the individual is as a whole shorter than the right, in the words of Tubby. The pelvis drops to the left both in standing and sitting. Therefore corrections must be

made beneath the left foot in standing and the left side in sitting. It will well repay the student to draw diagrams of these conditions, and then clinically interpret them osteopathically when indicated.

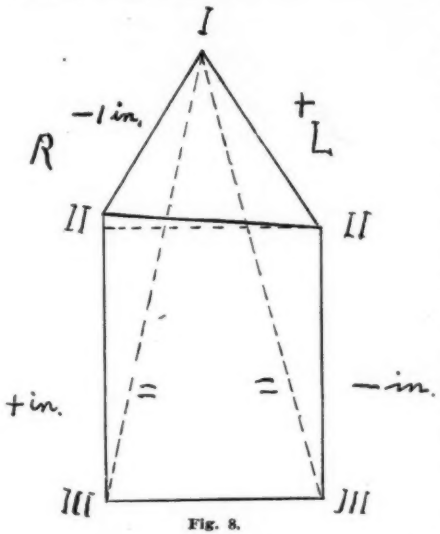


Fig. 8.

This figure (8), is a diagram of crossed asymmetry, compensated. RI. to III. equals LI. to III., i. e. the two sides of the patient are equal in length, but the right half of the body is smaller than the left, i. e. RI. to II. less than LI. to II., while the right side of the pelvis and leg is shorter than the left, i. e. RII. to III. is greater than LII. to III., and is just in sufficient proportion to correct the difference between the sides of the trunk, i. e. RI. to II. plus R II. to III equals LI. to II plus L II. to III. or RI. to III equals LI. to III. Correction required beneath the right side in sitting, and in extreme asymmetry beneath the left side in standing.

The other instance of possible crossed asymmetry, compensated, would be represented as follows: RI. to III. equals LI. to III. but RI. to II. is greater than LI. to II. and R II. to III. less than L II. to III. Correction required beneath the left side in sitting; extreme cases beneath the right side in standing.

Altogether there are three possible conditions of simple asymmetry, two of crossed asymmetry, non-compensated, and two of crossed, compensated. We have used the text of the above author.

Crossed asymmetry presents most interesting pictures. Unquestionably osteopathic lesions, especially innominate subluxations and lumbar rotations, determines the character of the asymmetry in a certain proportion of all cases of asymmetry. This can easily be proven by careful observation and adjustment. Remembering this fact will frequently aid in the elucidation of diagnostic signs.

Tubby says crossed asymmetry is met with in a proportion of one to four of all cases of asymmetry. Usually a lateral curvature develops to compensate for the one-sided condition. "These observations explain why the spine sometimes deviates to the side of the longer leg when the patient is sitting, instead of the shorter leg, and why corrections may be required on one side in sitting and the opposite in standing. They also explain why the curvature of the spine is sometimes on the side of the apparently shorter leg, and sometimes on that of the seemingly longer leg, and why it is sometimes on one side in sitting and the reverse in standing." A close study of this possible condition, some type of asymmetry, and a careful diagnosis of the osteopathic lesions and the nature of the resultant curves will oftentimes give an outline that will be of great practical value.

In the last September issue, page 26, we cited some experiments on rabbits with the lesion between the third and fourth dorsals. This should be studied in connection with the following.

We attempted a similar lesion on two rabbits between the second and third lumbars. Making a fixed point of the second and rotating the spine including the third lumbar down upon the second until the parts "gave" was the method used. This meant that the spinous processes of the lower lumbars were rotated to the right, the bodies to the left. This was given twice weekly for a month. The lesion, anatomical mal-adjustment, rigidity and tenderness, was distinctly noted between the second and third.

Other joints retained their usual flexibility. One animal developed an enteritis after the second day which continued until autopsy.

After killing the animal and removing the skin a slight left lateral curve was revealed for about six vertebrae with maximum deviation at the point of lesion, Figure 9. The flexibility of the spine at this point was more noticeable toward the left than the right. Re-

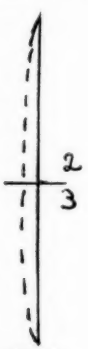


Fig. 9.

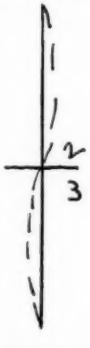


Fig. 10.

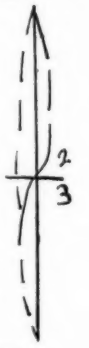


Fig. 11.

section with the spinal tissues intact, three vertebrae above and three below, the extent of the lateral curve, the section assumed a position of a double lateral curve, from the lesion upward including the second, the spine deviated slightly, but distinctly to the right, the remaining portion to the left, Figure 10. Figure 11 is a composite diagram.

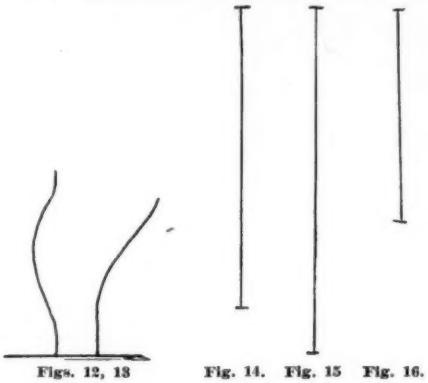
No doubt the starting point of these curves is a structural deviation, and the pathology shades off into functional features. An interesting question arises: Would the condition in time develop into a double lateral curvature as presented when the curved portion of the spinal column is resected Unquestionably there are similar conditions arising in the human spine where weight-bearing is a decided function. The resected spine assumes a double lateral curve entirely irrespective of any longitudinal weight-bearing function. Longitudinal muscular tension is an important factor in the lower animal. To what extent does unbalance of muscles and what may be termed immobilized asymmetry due to the osteopathic lesion enter as factors in producing curvatures in the human spine?

Then there are other interesting and practical questions. The physiological curves in the rabbit are quite different from those in the human, still there are similar structural similarities in the vertebrae. Note that in these experiments, the lesion production is the same still the double curve is reversed. This shows that the structure of the different regions largely determines the character of the curve. We have a similar situation in the human. Consequently, an understanding of the physiologic movements of the spine is very important. Structural pecularities of the different regions are of the greatest practical importance. Rotation of a curved rod in two planes that are not parallel accounts for part of it, pecularities of each joint for part, and muscular tension for still another part. It also shows clearly that a lesion in certain curves may be at the point of maximum deviation, and in other curves, double lateral, the lesion may be at the crossing, the two occurring synchronously and neither primary nor secondary. This must not be confused with other double lateral curves where there are distinct primary and compensatory features. One essential reason why these curves were not so marked as in the other series is because rotation in the lumbar is less pronounced than in the dorsal. The study of curvatures is certainly a most interesting one and specially in their relationship to the osteopathic lesion. There is much practical technique material to develop here.

In what little experimental work we have done we do not wish to convey the idea that our conclusions are applicable to all lesions in the human. Probably we have emphasized unduly the significance of the pathology of the articular capsule. That it is an important factor of the chronic lesion, numerically and pathologically, we have no doubt; but it is reasonable to assume that the anterior and posterior common ligaments and the intervertebral discs, with which they are intimately associated, are important, to

say nothing of muscular tension and the weight-bearing factor, as well as other elements. (Later on we will report another series of experiments.)

In a previous article, (September), we said something about the intervertebral discs. Here are four or five diagrams from Tubby and Lovett that are worth noting. Figure 12,



Figs. 12, 13 Fig. 14. Fig. 15 Fig. 16.

spinal column with discs; Figure 13, without discs; Figure 14, thickness of the discs at the front border; Figure 15, in the midde; Figure 16, at the posterior borders. (See also article by McNary in June *Osteopathic Physician.*

Occasionally a condition of the lumbar region is presented wherein the articular capsules are normal, but instead either the disc elasticity or anterior common ligament is lesioned. For example, take the third-fourth lumbar articulation. Place the patient upon his side and the spinous process of the third rotates upward. Then change the position of the patient to the other side and still the spinous process will rotate upward. The body of the vertebra apparently falls toward the lower side. This does not mean that we are dealing with a single vertebra but instead with a lesioned joint with adhesions or rigidity at some point of its articulating surface or restraining tissues. The axis of the vertebral rotation is well within the body of the vertebra. Here, in this instance, we are considering the pathology of two isolated vertebrae. Then, this must not be confused with a single-lesion-hypermobility that is compensatory to a contiguous rigid area.

The technique in these cases is simple and effective providing one can carefully and precisely localize the leverages (Fig. 26). Placing the patient upon his face and elevating the thighs and pelvis directly upward, with fulcrum precisely over the lesion so as to carefully stretch the anterior common ligament and psoas muscle, at this point, as well as the disc, will usually correct the lesion. Elevate with one hand and press down upon the lesion with the other. But this must be done with intelligence and great caution. A little click, if successful, is commonly elicted.

In the above procedure have the patient completely relaxed and with all the air out of the lungs that is possible. This relaxation and complete expiration is similar to that part of the technique when one adjusts a rotated middle or upper dorsal by a thrust upon the transverse process when the patient is lying prone, (Fig. 27), or when adjusting a posterior innominate with the thigh of the lesioned side crossed over the other when in the same position. In a lesion of this character there is probably some rotation of the body of the vertebra, for like some potations of the fifth lumbar, a distortion of the pelvis may be present, and it clears up just as soon as the lesion is corrected.

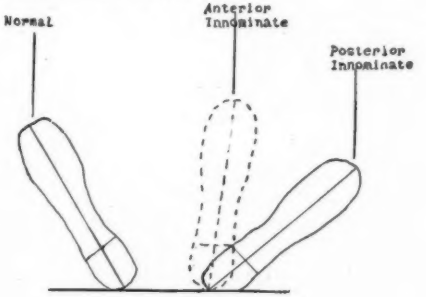


Fig. 17.

In Figure 17 we have outlined the relative position of the feet so frequently presented while the patient is lying upon their back. These positions will be noted in some com-

pensatory changes, although not all, as well as in actual innominate distortions. It is not an infallible guide but a very suggestive one; neither is it by far the only one. Posterior innominates are more common than anterior, and very many of the latter are only apparent (compensatory to lumbar lesions).

Pelvic lesions are worthy of much more study than has been given to the subject. We know that commonly a posterior ilium means a shortened leg, and an anterior ilium presents the opposite leg phenomenon. But there are instances where the ilium may be extremely rotated and the leg first shortened and then lengthened (not always, though), and the opposite may be true with the anterior displacements. There is a large field here for clinical research work. Some of the elements are as follows: (1) gravity line of skeleton; (2) gravity line of the living body; (3) transverse axis of pelvis; (4) angle of inclination of pelvis; (5) angle of pelvic joints; (6) capsule of the synchrondrosis and the other ligaments; (7) muscular tension; (8) lumbar lesions and curvatures; (9) postures of the body; (10) possible shortening of the leg and unilateral flatfoot. Dr. Reid in December JOURNAL gives some interesting anatomical data.

We have had a number of letters bearing upon the technique articles. Upon request, we are presenting a few more cuts (the following) which we believe will aid in clearing up a few points. However, as we have said before, they are presented for what they may be worth, in the hope that they may stimulate more careful clinical observation upon the part of the reader. There is still much to be formulated, and the best way for the student to get a thorough grasp upon technique is to thoroughly study the etiology and pathology of his cases. The mere technique is only a means to an end, depending absolutely upon an understanding of the character of the problem at issue. As a rule, the isolated lesion is only a part of the picture, its relations to the whole must be ferreted out in every instance.

Undoubtedly the chief reason why there are innumerable technique methods is because there is a great variation in the number and character of lesions. From an isolated lesion to a functional curve and on to a structural one the pathologic possibilities are extensive. Much of our work requires interpretation by palpation and clinical manifestations and not by autopsy; this is specially true in functional lesions and curves. But we should correlate our data, remembering that in each instance it is a finite expression of a universal law or principle.

Unfortunately diagram seven in the November JOURNAL was printed upside down, and position "A" in Figure 8 was not noted ("A" in the circle to extreme left, and "B" extreme right.) These two figures and their explanations in a way exemplifies the essence of the entire article. Locality, character of lesion etiologically and pathologically, varying sequence of so-termed physiologic movements, etc., are all elements of the problem.

The September and November technique articles should be studied in conjunction with this article. One thing is certain, there is still a great deal of osteopathic technique to be developed.

Figure 18 is standard for the succeeding three. Figure 19 is a left functional curve from seventh dorsal to third lumbar. This picture, like the preceding and the two immediately following, is photographed from the right anterior aspect. The mechanism and the angle of photograph is explained in the September JOURNAL. The perpendicular line corresponding to the gravity line is the one that passes through the acetabulum (right side). The screen is to simplify the study of the cuts.

Figure 20 is a double lateral curve (structural). Right dorsal and left lumbar.

Figure 21 represents a left posterior innominate and a right rotated fourth lumbar.

Figures 22 and 23 are taken from the left posterior aspect at about an angle of forty-five degrees. The first is standard and the other is a left lateral functional curve. The gravity line is that to the left of column.

Figures 24 and 25 represent a left lateral functional curve and a double lateral curve (right dorsal, left lumbar) respectively. These are taken directly from the front. A careful study of these will give one an idea of the character of the rotating bodies. Note the rotation of the bodies in both cuts. An understanding of these curves in conjunction with

(*Continued on Page 25.*)

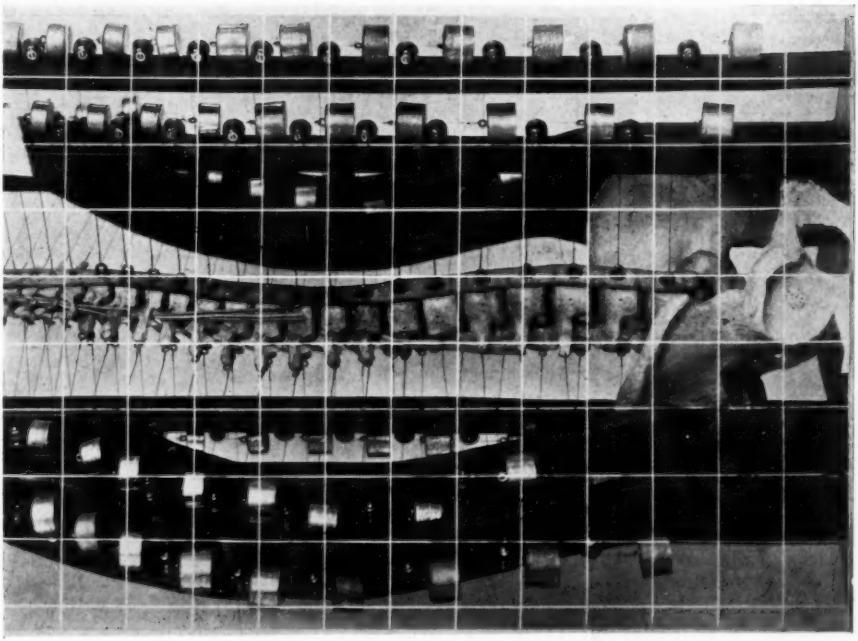


Fig. 19.

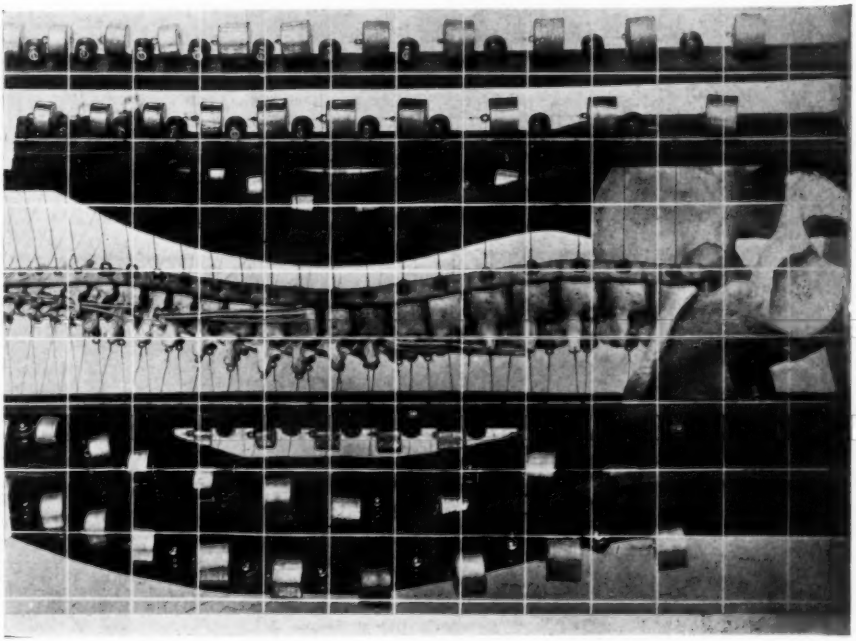


Fig. 18 (Standard).

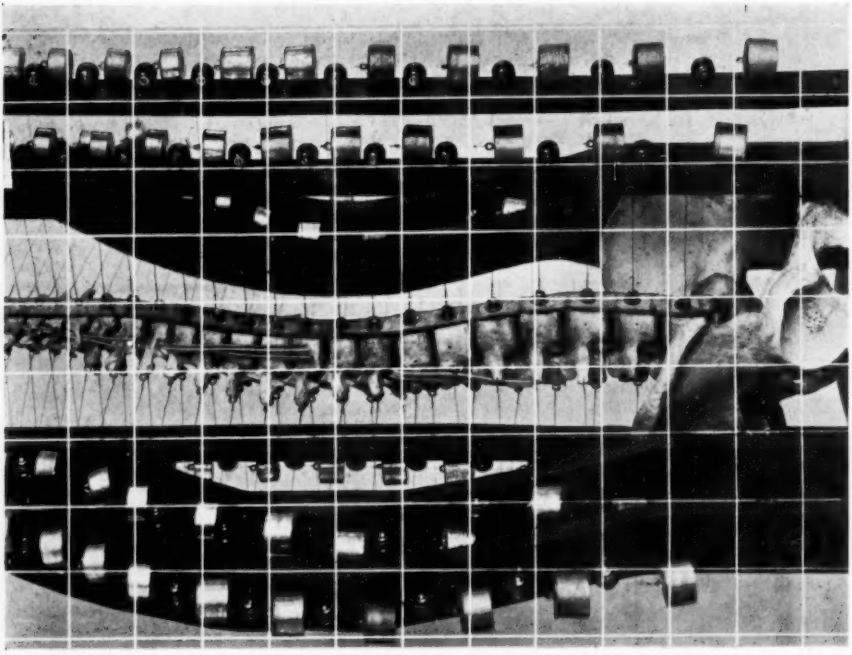


Fig. 21.

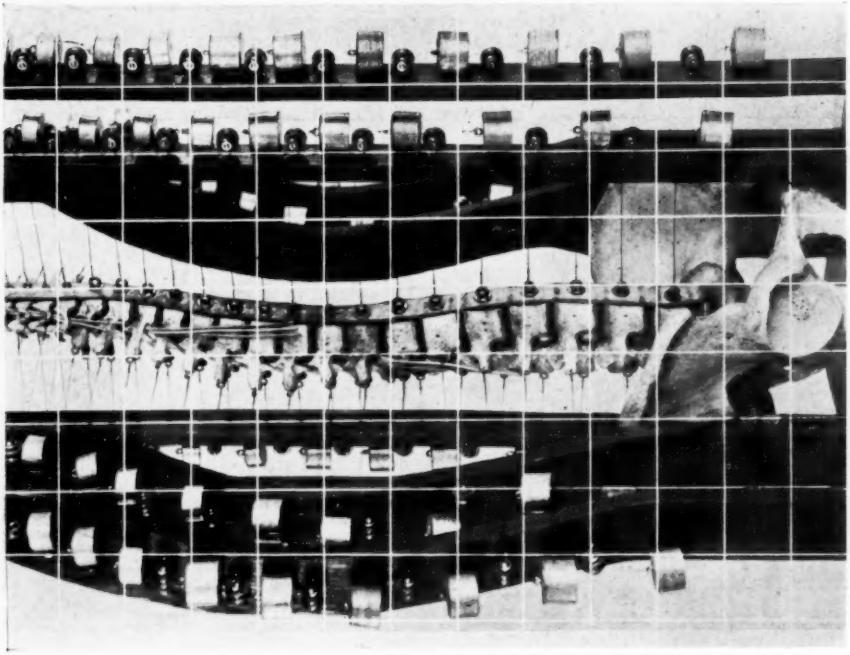


Fig. 20.

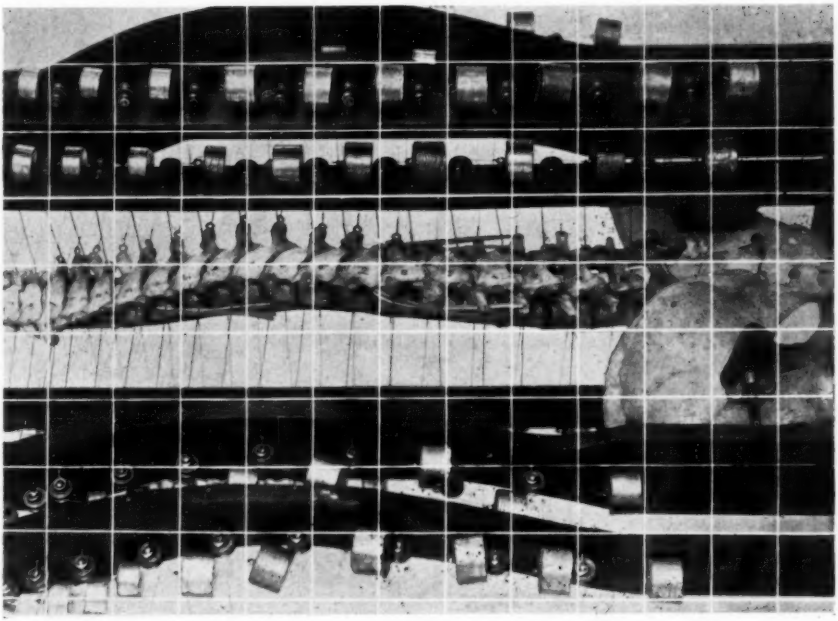


Fig. 23.

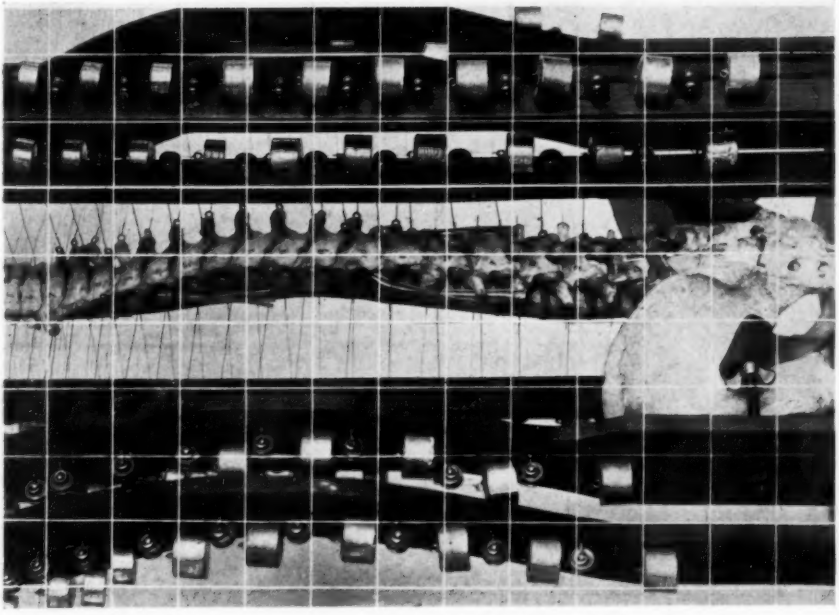


Fig. 22 (Standard).

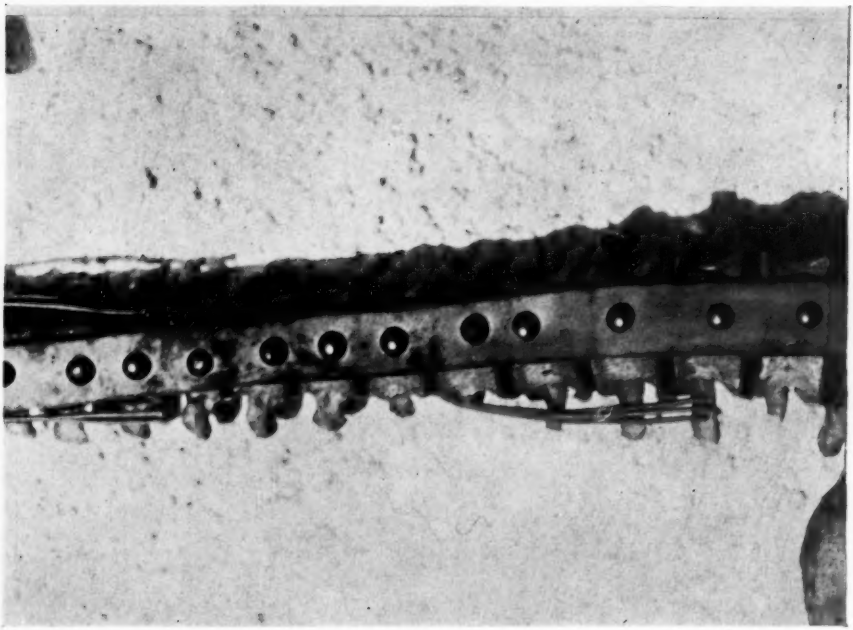


Fig. 23.

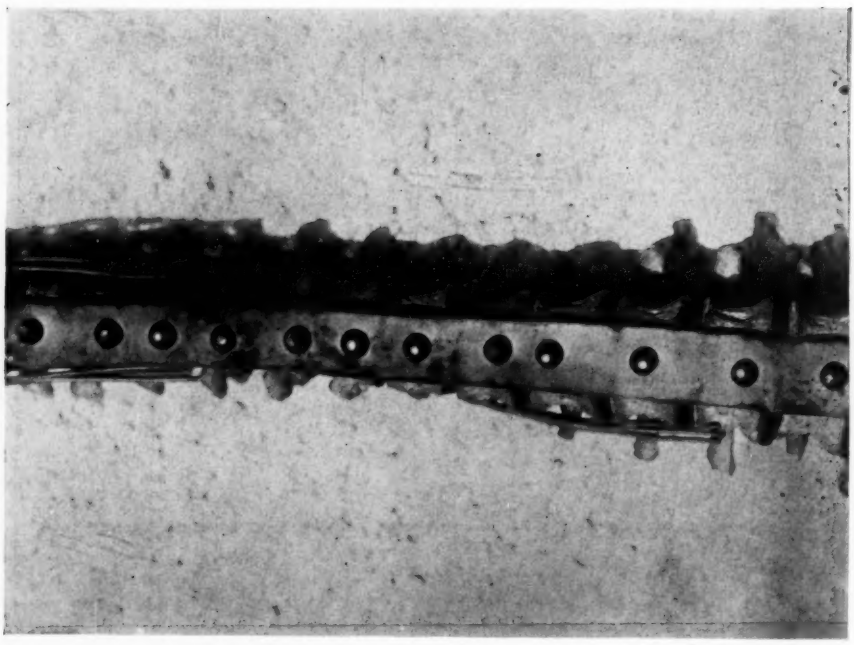


Fig. 24.

a knowledge of the physiologic movements and the nature of osteopathic lesions will aid very materially in diagnosis and technique. It will help one to understand the significance of muscular tension, of compensatory changes, and why we must vary our technique in various lesions of the same segment. There is certainly no royal road to technique. Although there are certain rules and probabilities still one must not get dogmatic for every case is an individual study.

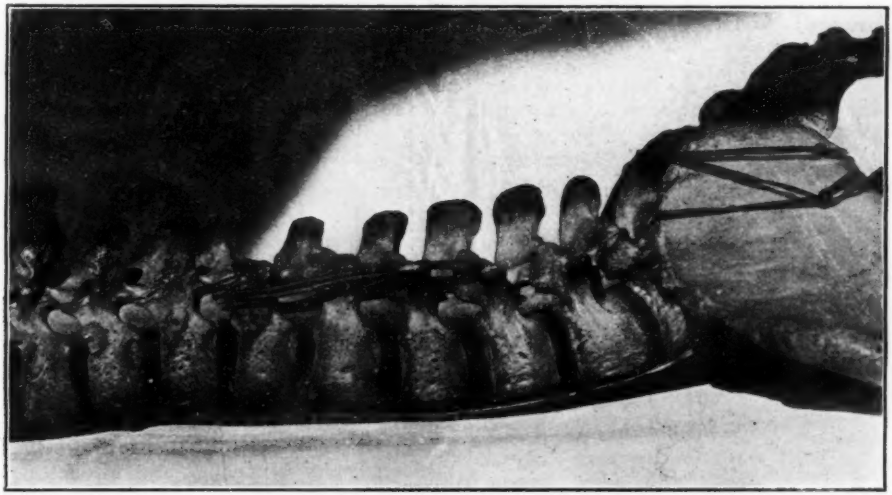


Fig. 26.

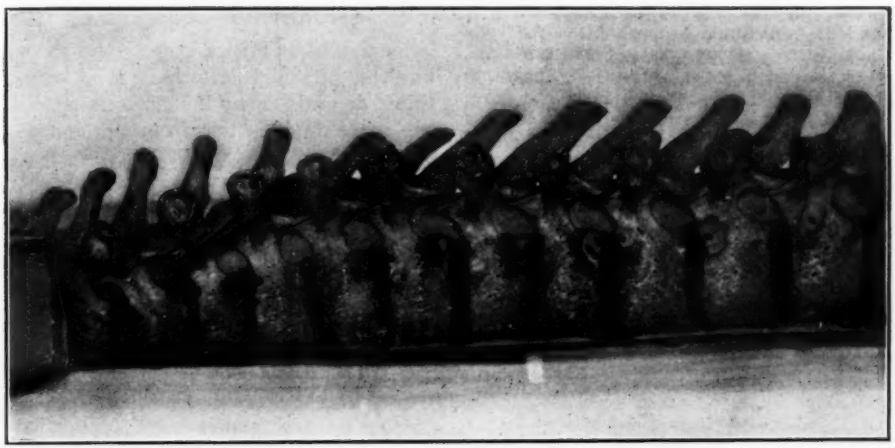


Fig. 27.

Figure 26 is to illustrate how easily one can secure leverages to separate the bodies of the lumbar vertebrae. Note the separation between the second and third lumbars when the patient is upon the face. This should be executed with the greatest care. The effect upon the disc, anterior common ligament and psoas muscle is considerable. Precise diagnosis is the only cue.

Figure 27 illustrates rotary lesion at the sixth dorsal. Note the separation of the articular processes. This is the situation with the patient upon his face. Complete expira-

tion of the breath and a light thrust upon the transverse process would be one method of correction.

Probably all will agree that there is a difference between functional and structural curves, aand that a functional curve as in Figure 28 may develop into a structural one; see same diagram. Now, if the body of the vertebra A tends toward the functional con-

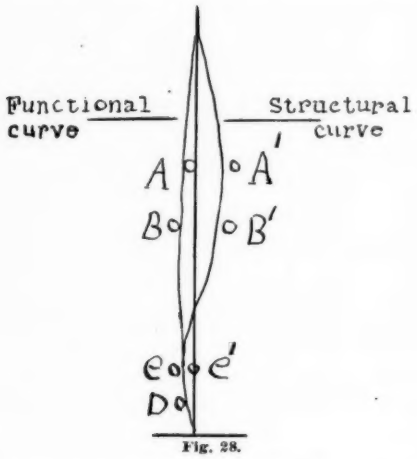
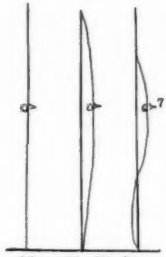


Fig. 28.

cavity it is largely a matter of transverse movement, with added rotation, to carry it into the structural position A'. If the body in all curves always rotate to the convexity, then position B would represent the functional situation. But all agree the functional curve may develop into a structural one, and as a consequence the position of body B would change to the position of body B'. Granting for the moment that this is the case, that the body of the vertebra always rotates to the convexity, then position C will be the true one for both of the functional and structural curves. If this is true, position C' is not a correct position, toward the concavity, for the functional curve; both would remain as in relative position D. But is it any more difficult to conceive of B changing to B', which must take place if the body always rotates to the convexity, than to conceive of C' changing to C when the functional develops into a structural?

We are using this illustration as a type of a fundamental problem. We have no desire of being dogmatic. In the functional curve, when the person bends forward, the concavity is higher than the convexity, the reverse of the structural, due to the rotation elevating the transverse processes. We would suggest that the reader examine a series of cases most carefully with his osteopathic fingers. If he finds that there is a difference, the technique indications will vary to quite a marked degree.



Figs. 29, 30, 31.

Figures 29, 30, 31 present both interesting and practical problems for every day solution; a series of three cases with lesions at the seventh dorsal. The localized lesion is of the same direction. The small circle represents the body of the vertebra. The first figure, 29, represents otherwise a normal spine. The second, 30, a right lateral total functional curve. The third, 31, a double lateral structural curve.

What are the etiologic and theropeutic elements of the three localized lesions? A little study will show that the combination of elements, proportionately, are not the same in any two instances. So-called physiologic movements are applicable to a normal spine only; the same proportion are not applicable to any lesional spine. Hence there is no absolute rule of thumb in technique. Everything depends upon the problem at issue, made up of factors from muscle tension to bone pathology.

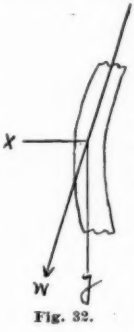


Fig. 32.

Tubby divides body weight, W, Figure 32, into components X and Y. This is all right so far as one factor is concerned, body weight. But there are other elements to reckon with, namely, muscular tension, anatomical peculiarities, the ribs, the pelvis, and various pathological features.

Technique elements are: X equals some proportion of side bending and rotation; Y equals traction or extension. After diognosing the precise character of a lesion some combination of these elements contains the key.

14 W. WASHINGTON ST.

THE EFFECTS OF AIR IN THE BLOOD STREAM*

SERIES NO. 21

J. DEASON, D. O., AND
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The findings in this report came as an accidental result of a more extensive experimental study of the effects of foreign substances in the body fluids. The work is still in progress and will be reported in full later.

Some years ago while doing experimental mammalian work we accidentally found that, contrary to the general belief, a few bubbles of air which happened to get into the veins or arteries of a living animal during surgical operations did not result in immediate death nor did it seem to interfere with the normal physiological processes of the animal. We have recently made a further study of the question with the results which are to follow.

LITERATURE

Surgical authorities are much at variance as to the effects of air in the blood stream, as may be seen from the following. Of the four dangers of venous hemorrhage, Rose and Carless (Manual of Surgery, 8th Edition) state:

The entrance of air into veins, which, though rarely met with, is fraught with the most urgent danger to the patient. The air becomes churned up in the cavities of the right side of the heart, forming a spumous, frothy mixture amongst the columnae carneae, which the heart can eject only with difficulty; thus the circulation is brought to a standstill in spite of forcible cardiac contractions, and the patient dies from anaemia of the lungs and brain.

The cause of the entry of air is usually a wound of some vein in what is known as the "dangerous region" of the neck (lower portion) or axilla, or even of such unlikely structures as the pelvic veins or cranial sinuses.

Concerning the signs and symptoms these authorities state:

If only a small amount has entered, or if the entry is made slowly, no bad results may follow; but the usual effect of the sudden introduction of even a small quantity is to produce severe faintness, and if the patient is conscious, a feeling of dyspnoea and distress, which is partly cardiac in origin, partly due to obstruction to the flow of blood through the lungs. The pulse becomes rapid and almost imperceptible, the pupils widely dilated, and death usually follows, preceded perhaps by convulsions, although the fatal issue may be postponed for a few hours. If the patient survives, no after-effects remain.

These authors class "air-bubbles" among the common causes of "Simple Emboli." Concerning the dangers of external wounds of the head, these authors state that "Infective thrombosis and pyemia are the chief dangers, but entrance of air has also led to a fatal issue in a few cases." From Da Costa (Modern Surgery, Sixth Edition) we quote the following:—

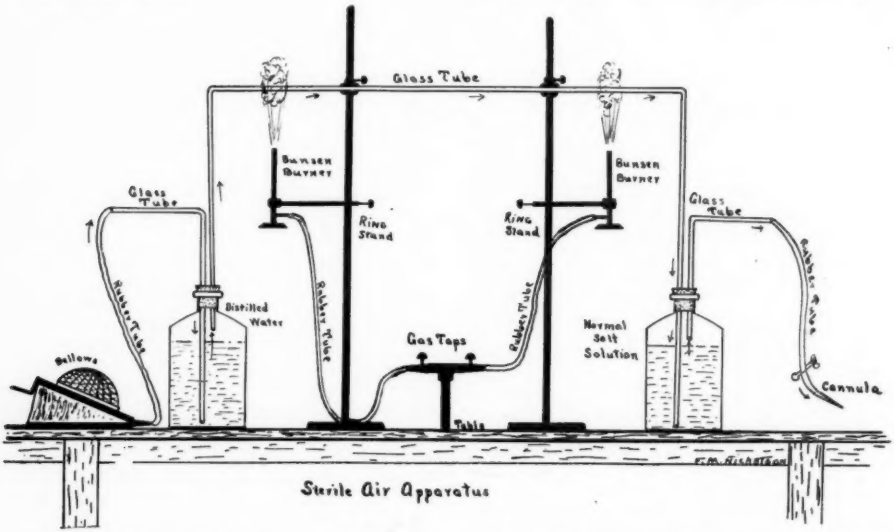
AIR-EMBOLISM.—Air may enter a vein during a surgical operation, or it may be injected accidentally while giving a hypodermic injection, hypodermoclysis, or a saline infusion into a vein. It may follow irrigation of the pleura with hydrogen peroxid. In caisson disease it is taught by some that nitrogen is set free in the blood. It may occur when a cerebral sinus is opened, or in the uterine veins, if the uterus does not remain contracted after delivery. It is very seldom that any symptoms follow. It was long thought that such an accident must be extremely dangerous. The experiments of my colleague, Professor Hare, indicate that quantities of air may be injected into the veins of a dog without apparent harm. The entry of a small amount of air into the veins of a human being will not be apt to induce dangerous symptoms, but it may be fatal. The more rapidly it is introduced and the greater the amount, the greater is the danger. The manner in which it can induce death is doubtful. Some maintain that it causes blood in the right side of the heart to froth, and thus prevents normal action of the valves, the heart becoming unable to propel blood through the lungs. Others maintain that air reaches the cerebral capillaries and so causes cerebral anemia. Some believe cardiac failure results from the presence of air in the pulmonary capillaries. The first view is most probable. If a surgeon divides a large vein, air may be sucked in, and there is particular danger in such an accident if a vein at the root of the neck or a cerebral sinus is torn or incised, or

*We are greatly indebted to the other workers in the Institute for assisting us with this work, and we are especially indebted to Drs. Hollands and Nicholson for making the post-mortem on Animal No. 15.

if the damaged vessel lies in scar tissue and cannot collapse.

Under the symptoms of this condition Da Costa states:—

When during an operation air enters a large vein there is a sucking sound, air bubbles may be noted in the wound, and serious symptoms may or may not follow. Twice I have wounded the subclavian vein and have heard this sound, but no alarming symptoms developed. If serious symptoms are produced, they arrive suddenly, and consist of extreme failure of circulation, a curious whirring or churning sound on cardiac systole audible even without a stethoscope, deadly pallor or cyanosis, gasping for air, convulsions, and possibly death.



All of the other literature that we have been able to find on the subject is very indefinite and offers nothing other than what has been given above, and we have not been able to find any statements regarding the effects of air in the arteries. There is of course little danger of air entering the arteries from accidental injury, but in experimental work there is some danger if the air be allowed to enter the peripheral end of the artery as will be seen from our results.

METHODS OF STUDY AND RESULTS

The first six animals that were operated on had varying quantities of air, from one to ten cubic centimeters, injected into their veins and were kept for from one to two hours usually under ether, after the air had been injected.

It is known that even small amounts of most foreign substances especially solids will cause coalgulation when injected into the blood stream. For this reason we carefully washed all of the air used for injecting by bubbling it through distilled water and sterile physiological salt solution. This was later found to be unnecessary and that the injection of unwashed air was not followed by coagulation or any other bad effects. The injection was usually made into the femoral vein by means of a glass cannula attached to a burette.

For the purpose of determining more definitely the effects of such injections of air the following experiments were performed:

Dog No. 7. An injection apparatus was arranged by means of which small bubbles of air were first pumped through distilled water, and then bubbled through physiological salt solution before it was injected into the vein. The air thus washed, sterilized and rewashed was pumped into the central end of the femoral vein. The animal was kept under ether anesthesia and the operation was done aseptically. From fifty to one hundred c. c's of

air were thus injected during a period of ten minutes. After the injection was made the vein was ligated and the incision was stitched and bandaged. The animal was kept and carefully observed for a period of three weeks after the operation and no symptoms of any kind appeared.

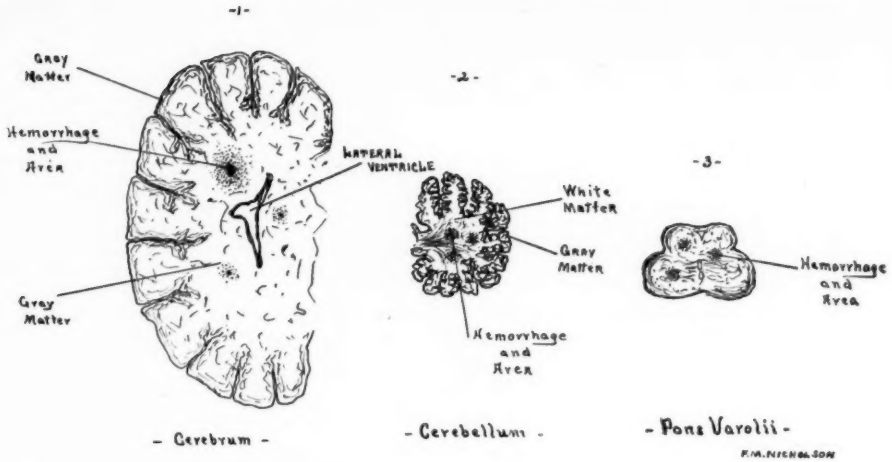
In these seven animals no symptoms of cardiac troubles were observed and there were no signs of inability of the heart to pump blood to the lungs. There was no dyspnea nor signs of cerebral anemia. Porst-mortem examinations of the first six animals showed no frothy blood in the heart and no signs of air or emboli in the lungs. The fact that we found no air in the veins, heart or lungs in post-mortems made from thirty minutes to two hours after the injection of air into the veins leads us to conclude that the air is all removed from the blood as it passes through the lungs and that probably some of it is absorbed directly by the blood in the veins. If this is true there is no danger from cerebral emboli from the entrance of air into the veins.

For the purpose of determining the effects of other foreign substances when injected with air, suspensions of small quantities of insoluble salts, such as bismuth subnitrate and bismuth subcarbonate were made in physiological salt solution and this injected into the central end of the femoral vein together with air bubbles. These injections were followed by rapid and forceful heart beats, usualiy dyspnea and death. The symptoms appeared in from a few seconds to two or three minutes after injection. Post-mortem examinations showed that the blood had coagulated in the veins and heart. Bubbles of air were found in the veins and heart together with clotted blood. These results would seem to show that the fast, forcible and irregular heart beats, the dyspnea, etc., observed by surgeons, may have resulted from foreign substances other than air causing clot emboli.

To determine whether air, when injected into the arteries, would cause any bad effects, four dogs were operated as follows:

The animal was carefully etherized and the ventral portion of the neck was shaved and sterilized; first by scrubbing with warm water, soap and brush following, which alcohol and tincture of iodine was freely applied. An incision was made in the median line of the neck, and the carotid sheath carefully lifted from its place without straining on the vagus nerve. From one to two c. c.'s of air were injected into the carotid artery without removing the carotid sheath. The needle was inserted brainward and the injection made without disturbing the surrounding tissues. There was usually some hemorrhage from the artery after the needle was removed, but this was easily stopped by the application of a drop of alcohol. The structures were then replaced to their normal position and the incision was sewed and the parts bandaged. These operations were all done aseptically and no infection resulted in any case. In two dogs sterile air was used for the injection while in the other two animals nonsterile air was used. These animals were kept for from one to two weeks and with one possible exception there were no symptoms from the injections. One animal was observed to vomit twice after eating on the day following the operation, but this might have resulted from ether sickness or some other cause.

Dog No. 15. This dog was about three years old and seemed to be well nourished and otherwise in good condition except that it had incoördination of the hind legs. There was no spasticity and the animal could walk some when placed on its feet and given a start. After two weeks observation the animal was observed to grow worse and refused food. An open operation was performed as described above, two c. c.'s of sterile air were injected into the left and five c. c.'s of air into the right carotid artery. The operation was performed at 9 P. M. The dog did not regain consciousness after the effects of the ether had passed, but went into coma from which it never recovered. Spasmodic clonic contractions of the diaphragm and abdominal muscles were observed as soon as the effects of the ether had passed away. There was also extreme dyspnea, rapid heart beat (204 per minute), tonic spasms of the eyelids and dilated pupils. We cannot say that all of these symptoms resulted from the injection of the air as the animal was observed to have spasmodic contractions of these muscles before the injection was made. The next morning the dyspnea and spasmodic contractions were less marked, the eyelids were



partly open, and there was marked nystagmus. The pupils did not react to light, vision and sensation seemed to be lacking but the lid reflex was present.

The animal was given one pint of water by stomach tube. There was no tetanus of the jaw or other muscles and the evacuation of the bowels and bladder seemed to be normal, occurring once or twice daily. The clonic contractions and dyspnea became less severe during the day and twenty-six hours after the operation there seemed to be a slight response to sensory stimuli, but no sensation. The nystagmus had stopped, the heart beat and respiration were about normal and the clonic contractions of the abdominal muscles and diaphragm were less marked. The animal was again given water by stomach tube. Death resulted about thirty-two hours after the operation.

Post-mortem Findings.—There was some inflammation in the region of the incision but neither of the vagi or phrenics were found to be injured in any way. The inflammation had involved both carotid sheaths and it is possible that the nerves could have been affected by the inflammation. We believe, however, that the symptom came as a result of brain anemia.

A careful dissection of the spinal structures showed that there was no fracture or luxation as we had suspected, but instead there was a characteristic interosseous subluxation between tenth and eleventh dorsal vertebrae, the tenth being rotated to the right. The tenth and eleventh ribs on the right side were approximated and the corresponding ribs on the left side were separated and posterior. There was no fracture of any part of the vertebrae or ribs.

The brain was carefully removed and placed in a formalin solution. After ten days it was sectioned and showed numerous small hemorrhagic areas in the cerebellum and pons varolii. The left side of the cerebrum showed one area of clot with surrounding tissue infiltrated with blood internal to the anterior horn of the left centricle. A few smaller areas of infiltration were found.

In our experimental work we have twice before observed symptoms of incoördination resulting from bony lesions. Drs. McConnell and J. H. Baughman and others tell us that they have observed such symptoms from bony lesions and that such cases respond well to treatment.

Dog No. 16.—Because the results of the above test were unreliable, due to the bad condition of the dog at the outset we decided to try a normal dog with larger amounts of air. A perfectly healthy animal weighing about 17 Kg., was therefore, injected with three c. c.'s of air into each carotid artery with results as follows: The animal regained consciousness in about three hours after the operation, but the eyelids were tightly closed. There were no other symptoms such as those which occured in Dog No. 15, except cerebral anemia. The respiration, pulse, and temperature remained normal. The muscle tone was good and the reflexes all seemed to be present and normal. After nine hours (the morning after the operation) the animal seemed to be more conscious, responded to calls by wagging its tail and lifting its ears but would not try to stand.

The eyes were open and the lid and pupillary reflexes seemed to be normal. It refused food and drink, but was given water by a stomach tube. There was no paralysis or incoördination at any time. The dog was allowed to remain undisturbed and the following morning it seemed much more active, responded to calls, ate and drank and passed urine and feces normally. It stood or sat up a part of the time and showed no signs of incoördination. The following day (three days after the operation), the animal seemed to be almost normal in every way. There was no infection from the operation and so far as we could observe the animal is now normal in every way. When the animal was removed from the cage and allowed to run free it was found to be unable to see. We have not yet determined the cause of the blindness. All of its other senses seemed to be normal. It is now five days since the animal was operated. From the result of this work we conclude:

CONCLUSIONS

1. That there is very little or no danger from the entrance of air into the veins unless other foreign substances are carried in with it.
2. That the blood of normal animals has the power of absorbing large quantities of air and that it can also destroy bacteria which may be contained in the air.
3. That air injected into the carotid arteries will cause anemia of the brain from which the animal may recover if kept quiet.
4. That symptoms of incoördination can result from interosseous subluxations.
5. That interosseous subluxations which materially affect the normal body functions cause a marked decrease in the ability of the animal to adjust itself to functional perversions.

OBSERVATIONS ON EFFECT OF OSTEOPATHIC TREATMENT ON BLOOD PRESSURE

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From constant observation with the sphygmomanometer covering a period of over three years and records of over three hundred cases, I have come to the conclusion that osteopathic treatment offers one of the very best methods of normalizing an abnormal blood pressure.

While some satisfactory results were obtained by the purely empirical process of concussion, stimulation or inhibition of nerve centers of control—e. g., concussion or stimulation at the seventh cervical vertebra to strengthen the work of the heart, or vigorous stimulation at the second and third dorsal to lower a high blood pressure, yet by far the more flattering, successful and permanent results were obtained by purely osteopathic corrective treatment, i. e., the removal of lesions—muscular, ligamentous, cartilagenous or bony, which were interfering with nature's normal functions, and this process tends invariably to normalize an abnormal blood pressure by lowering it, if it is high, and raising it, if low; and these results are very satisfactory and permanent.

To give concrete illustration of this statement, I will cite three cases:

The first a case of a man of fifty-three, who had a very high blood pressure, but no physical lesions to account for it. He had been examined by a number of the best diagnosticians of all schools in this country and abroad, and all agreed that he was organically sound from head to foot, and all concluded that his high blood pressure (often as high as 210) came from excessive smoking. He smoked regularly from twenty to thirty cigars per day. I could make no impression on his blood pressure by any form of treatment while he continued smoking at that rate. Eventually I persuaded him to cut down his smoking to a maximum of three cigars a day and then I began to make some impression on his blood pressure. I made numerous experiments to see what line of treatment would produce the best results, taking his blood pressure measurements before, during, immediately after and a few hours after each treatment, with the following results:—

CASE I: In a man age 53; condition, high blood pressure from excessive smoking; no lesions:

Blood Pressure Before	After	Nature of Treatment	Remarks
196	190	15 min. inhibition at 2nd and 3rd dorsal.	Effect lasted about two hours then back to 194.
188	176	15 min. stimulation at 2nd and 3rd dorsal.	Effect lasted three hours, then B. P. back to 182.
184	175	Abdominal massage 15 minutes.	Effect lasted two hours, then B. P. back to 184.
180	178	Inhibition of splanchnics 15 minutes.	Effect lasted one hour, then back to 180.
180	180	Stimulation of splanchnis 15 minutes.	
180	180	Stimulation of 7th cervical 15 minutes.	
186	186	General spinal treatment.	

Above treatments were given one each day for seven consecutive days after which I concluded that stimulation at the second and third dorsal would have the greatest effect in reducing blood pressure in this case, hence I followed that line of treatment exclusively with a treatment first daily then every other day, and had the satisfaction of getting the blood pressure down to 150 where it has stayed ever since—now seven months—but it required six weeks to get that result.

As remarked above, there were no definite anatomical lesions to work on in this case. Now contrast this result with the two following cases which presented definite lesions:

Case 2: Patient, woman aged 50; condition, light stroke, hemip-legia three months before; marked contracture of cervical musculature:

Blood Pressure Before	After	Nature of Treatment	Remarks
180	168	Relaxation of cervical muscles and general general treatment.	Saw patient first one month after paralysis and in four treatments had blood pressure down to 150 where it has stayed ever since.
145	140	DO.	
140	140	DO.	

Above results were obtained from only three treatments given two days apart and blood pressure has remained at 140 ever since—now six months—and effects of hemiplegia—right arm and leg—have all disappeared.

Case 3: Patient, man age 61; condition, Bell's Palsy, resulting from a fall; cervical contracture and lateral luxation of the atlas:—

Blood Pressure Before	After	Nature of Treatment	Remarks
204	190	Relaxation of cervical muscles and adjustment of the atlas.	Blood pressure continued to decrease steadily till second treatment was given 48 hours later, and continued to decrease as indicated.
190	175		
176	160		
158	150		

I must confess, however, that such immediate results as were obtained in the last two cases cited are exceptional rather than the rule, but as a general proposition the rule obtains in the vast majority of cases that corrective osteopathic treatment makes the blood pressure, if abnormal, return to the normal in the course of time. And why shouldn't it? Osteopathic treatment is pre-eminently adapted to the removal of nature's physiological handicaps, and when we remove the contracture of muscle, tenseness of ligament, luxation of bony structures and such other conditions as interfere with nature's normal functions. We re-establish a free circulation and a normal nervous equilibrium and thus normalize blood pressure. Blood pressure being maintained as it is by so many complex factors, each case presents a study by itself, and that is the reason for so much diversity of opinion in all data which we gather from the various text-books on the subject.

To my mind, the greatest factor in the disturbance of blood pressure is the vaso motor nervous mechanism, and since the direct and reflex possibilities of such disturbances are practically limitless it follows that almost every case of abnormal blood pressure presents the problem of personal idiosyncrasy and constitutional pecularities, and for this reason the compiled data for any given disease is often very variable and contradictory. But I do find it to be an invariable rule that while individuals differ widely as to results in any particular disease, the same individual always presents the same results; i. e., the same individual always has the same symptoms from the same disturbance and always responds alike to any particular form of treatment, while other cases of apparently the same type respond differently to both the disease and treatment. Hence, I regard the study of blood pressure as a proposition that should be an individual study for each particular case, and I contend that a physician should be as familiar with the temperature, pulse rate, and normal blood pressure of each individual patient

as he is with his physiognomy, and then when in disease he discovers any deviation from the individual's normal blood pressure, he can look intelligently for the disturbing factors and remedy the same by proper treatment.

There is such a wide variation in the normal blood pressure of different persons that in my physical examinations of candidates for life insurance I do not turn down an adult applicant on account of a blood pressure which is above 110 or below 150, but variations below or above those figures I regard with suspicion. And when normal blood pressure present such a difference, it is not surprising that diseased conditions, with their limitless complications, have totally unlike variations in the same pathological states. I have had two cases of pronounced arterio-sclerosis where the blood pressure was normal, and one case of this disease where it was actually subnormal! In these instances the natural high pressure looked for was off-set or counter-balanced by other factors tending to low pressure.

I give below some data of three diseases with results of osteopathic treatment. In all cases the readings were made with the Janeway (mercurial) sphygmomanometer with 12 cm cuff.

Arterio-sclerosis—Twenty-seven cases treated with blood pressure ranging from 160 to 290, of these cases, nine were in their incipiency and blood pressure was reduced to normal (average time treated, three months). In eleven cases blood pressure was reduced to 160 (time averaging two months), and in seven cases no benefit as to blood pressure. Treatment:—General, with removal of specific lesions.

Anaemia—Sixteen cases treated with blood pressure ranging from 80 to 100. A course of treatment (averaging two and one-half months) brought all but one case up to 110 or over; two cases going up to 140. Treatment—General spinal, removal of specific lesions, dietetic regulations, and especial attention to treatment of splanchnic nerves and splenic circulation.

Chlorosis—Of six cases treated with blood pressure averaging 90 before treatment, four responded by blood pressure going up to 120 or over (average time four months); one came up to 110, and one responded not at all. Treatment—General spinal, removal of lesions and butter-milk or sour-milk diet.

I have cited these three disease particularly because they almost invariably present definite deviations from the normal blood-pressure, arterio-sclerosis high, and the anaemias and chlorosis low. The figures above given are typical of the average osteopathic results. To give tabulated data for many other diseases, however, I find it practically impossible. I could give numerous case reports, but they differ so widely in any given disease because of the difference in age, sex, weight, temperament, habits, and above all, the personal equation or individual idiosyncrasies, that in many diseases (as in asthma for example) some present high, some low and others normal blood pressure in apparently the same pathological state.

I have found that the immediate effects of osteopathic treatment on blood pressure are much less pronounced during the process of digestion than at other times; that the heavy users of tobacco, coffee, tea and drugs respond much less readily than others; also that those patients of a nervous temperament respond better than the phlegmatic; all of which facts tend to prove, to my mind, that the osteopathic results are largely effected through the vaso-motor mechanism.

In conclusion, the two points I wish most to emphasize are: First, that whatever the disease or condition which presents an abnormal blood pressure, osteopathy tends to normalize that blood pressure; and second, that I regard blood pressure as an *individual* study, but a very important one, nevertheless, and that the physician should study each patient's blood pressure so as to be familiar with its variations in health and disease, for it holds the key that unlocks the mystery of many of the complex and puzzling physiological and pathological phenomena.

Board of Trade Bldg.

OSTEOPATHIC TECHNIQUE

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Any discussion upon the subject of osteopathic technique, if it is to be presented to the profession, is of little value if it emphasizes to any great extent the exact methods of any single individual manipulations, as, after even but a few months' practice, the osteopathic physician becomes his own guide to the manipulations that he employs. Often, however, the principles of diagnosis of osteopathic lesions are not quite clearly understood and therefore it will perhaps be helpful to suggest a few procedures that may be employed in establishing a diagnosis of the commoner osteopathic lesions.

We would preface any suggestions made herein by a statement of the principle underlying the lesion as it is usually met with. First, we would say that an osteopathic lesion is a perversion of the tissues around and intimately associated with a vertebral articulation; this perversion of tissues is such that the movement between individual vertebrae is abnormally lessened because of a congestion about the articulation with a certain thickening and proliferation of the fibrous tissues of the capsule and other ligaments, etc. The most readily accessible feature of the osteopathic lesion will therefore be the amount of movement that is found in an involved articulation. In other words, if the amount of movement, that is found between two vertebrae, is normal throughout the entire range of movement of that segment, those vertebrae are not in lesion; and vice versa, if it is found, on making a thorough test of the range of movement that there is a limitation of movement between the vertebrae in question, then an osteopathic lesion is present. Thus, it will be seen that other diagnostic points, though important, are in a sense secondary to this main one, the utilization of which presupposes the fact that the amount of movement between the various articulations of the spine can be positively determined.

It is also important to distinguish between primary and secondary lesions of the spine, as these latter are produced frequently as compensatory to the initiating trouble. A secondary lesion is generally above the primary lesion, and it is therefore wise as a general principle to treat from below upwards, as then the secondary lesions will receive attention after the primary ones have been worked upon. We will, therefore, briefly suggest some diagnostic methods dependent upon an interpretation of the amount of movement found in various regions of the spine.

The Innominates.—If the patient lie upon his side and if the upper leg be flexed at right angles so as to be supported by operator's iliac fossa, then operator can grasp the entire innominate; one hand should be placed on the tuber ischii and the other on the crest of the ilium in such a way that the fingers will overlap onto the tissues over the sacrum. From this position the slightest movement of operator's body will cause the innominate to move on the sacrum, and this can be felt by operator's hand over the sacrum. A little practice in this manner is all that is necessary to enable considerable skill to be obtained by operator in determining whether or not a normal amount of movement is present, and if not present in determining in what direction the limitation is to be looked for.

The Lumbar Region.—Patient still being upon his side both legs may be flexed and supported by operator's body. Operator's two hands may be placed on the

(In submitting the following brief outline on technique, there has been no attempt made to do more than barely to suggest the line of thought followed in the demonstration presented at the convention. As in this demonstration a few reliable methods of diagnosis, rather of actual treatment, were shown, the principles of these, as far as possible, are herein reproduced.)

spines of the lumbar vertebrate, so that the spines and the supraspinous ligaments can readily be felt. Now a little movement of operator's body carrying patient's legs up and down somewhat will cause movement in the lumbar section of the spine which can be felt by operator as the processes are carried further from one another or approximated. In case of lesion very frequently the normal movement will not be felt, two or more processes moving as though impacted or held rigidly together.

The Lower and Mid-Dorsal Regions.—Lesions in the lower and middle dorsal regions may be detected by determining how much rotary movement there is in this part of the spine. An interesting point can often be noticed from a gross pathological standpoint as follows: If several vertebrae are in lesion on one side and not on the other—as is often the case—the degree of movement will vary to the extent of being visible; for example, in such a case, if the patient be seated with back to operator, there will be found to be markedly less movement on one side than on the other when the patient be lightly rotated. If this entire section of the spine is rigid, lessened rotary movement will be found on both sides.

Individual lesions can be tested for by rotating the spine from some good point of leverage and opposing the rotation by placing the thumb of the other hand between spinous processes. A good application of this principle is as follows: Fold patient's arms across his chest so that each of his hands is placed on his opposite shoulder. Now grasp one of patient's shoulders with hand placed just external to patient's hand. Flex patient well forward and, from the lever of the shoulder, rotate the lower and middle dorsal spine; at the same time put thumb between the individual spinous processes in such a way as to check this movement. By a proper application of this principle a slight teetering movement of the shoulders will be felt by the opposing thumb and differences in amount and degree of movement felt can soon be interpreted with quite considerable accuracy.

The Upper Dorsal Region.—The movement in this region is again rotary though a different lever will have to be employed to enable one to make a correct interpretation of the amount of movement noted. One good method is as follows: With the patient seated on a stool the head is grasped by operator's flexed arm in such a way that patient's forehead rests on operator's biceps and the side of his head rests upon operator's chest. From this position a slight amount of rotary movement can readily be opposed by operator's thumb between the spinous processes. A very exact idea of the type and amount of lesion in this region can be obtained by properly interpreting what is felt on lightly teetering the patient's head when in this position.

The Neck; (a) The Lower Section.—The most reliable point of diagnosis of lesion between the typical cervical vertebrae is probably the presence of thickened tissues over the articular processes and also the general feeling of pliability and flexibility of the neck.

(*b*) *The Upper Section.*—The movement between the Atlas and the Axis is exclusively rotary and generally when this articulation is involved osteopathically the lesion can be accurately determined by comparing the amount of rotation obtained on one side with the amount obtained on the other. Normally there is present about 90 degrees of rotation, which means that the chin will travel between the mid-point of each clavicle. By properly localising the movement at this articulation and being careful to exclude rotation below, an accurate idea of the lesion can be gained.

The Atlanto-Occipital articulation is somewhat rarely involved and it is not within the range of this discussion to enter into the possibilities of trouble in this region.

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Editorials

SOME NEW YEAR RESOLUTIONS

That we be more loyal this year. Few of us have learned our lesson in loyalty from Dr. Still. The Old Doctor got a vision. It seemed to him a great and useful truth and he followed and fought for it, and forsaking all others cleaved unto it. The Great Teacher gave some striking illustrations of loyalty and the desirability of placing value on something worth while; notably, the merchant who found an unusually valuable pearl and sold all that he had in order that he might obtain it.

Some people are so constituted as to be able to be loyal to very inconsiderable causes and concerns, as more or less sustained enthusiasm for some of the fads of the day indicate; but most of us require to be convinced of the real truth and usefulness of that to which we give allegiance. Few who have studied and practiced osteopathy have found it disappointing. True, many went through one of our colleges who are not now in practice, but this is true of all the professions or vocations requiring special fitness and adaptation. A mining engineer recently told the writer, that of his graduating class of about thirty, of less than ten years ago, from one of the best five-year-courses in this country, only two are now following that profession. This experience may be exceptional but it illustrates the defections from professional work and the unsteadiness of men and women in following that which they originally chose as their life work.

The causes of this shifting are many and varied, but perhaps generally explained by a lack of knowledge on the part of most people as to their own capacities and capabilities and a poor understanding of the work they are entering This undoubtedly is the cause of most of the failures or desertions in the practice of osteopathy; but when it is considered that for ten years or more after the first colleges were opened, no restrictions were placed on those who applied as to their preparedness or suitability for the work to be undertaken, the wonder is that there have been so comparitively few to leave the practice.

The reason for a smaller proportion of failures here than elsewhere, or smaller than would be expected under the circumstances mentioned above, is undoubtedly due to the effectiveness of osteopathy in the first place and to the loyalty with which most of the early graduates followed it. Then osteopathy was taught in twenty months and the teaching was practical entirely, and as compared with our four-year courses of today, was largely demonstrations, and the study necessary to the practical work. This almost any fairly intelligent man or woman could do and prove successful

in the limited or restricted practice which came to most of them. There was not so much necessity for being an all-round physician and being able to recognize and differentiate the acute infections, for instance, because the work done by the osteopathic physicians at that time was largely an office practice.

But conditions have now greatly changed. The laws in most of the states have vested us with enlarged rights and responsibilities and in return for these demand additional qualifications which unfortunately are apt to be general and preliminary in character, and are tested by examinations which have to do more with knowledge we make little use of and call for experiences which to us are not practical, rather than demand exact knowledge and definite qualifications for the work in hand. This we believe to be the primary fault in the effort of the state to place the examinations of osteopathic physicians under the same regulations as medical examiners. It makes no difference, as we see it, who does the examining. It is not practical. We are told, in this connection, that an osteopathic physician is the examiner for the "practice of medicine" on the California board; and to this arrangement we have exactly the same objection that we have to the medical men examining in therapeutics where the osteopath is examined, and we disapprove of it as heartily for the same reason, that it doesn't fit the conditions and isn't practical.

The position of many is that the same examination should be required of all practicians and then all will be given equal privilege and discretion in practice. In a sense this has advantages and appeals to many osteopathic physicians, and their wish to take advantage of the possibilities under the liberality of the state laws weans some away from activity in the osteopathic movement.

However, this is not written to complain of the lack of loyalty of a few or to praise the remarkable loyalty of others. It is written to urge an increased loyalty for all. Just a little more general recognition of the claim of osteopathy as a profession upon us; just a little more of the spirit of placing the interest and advancement of osteopathy ahead of our own; just a little more support of our organizations and organized movements, and we shall push our profession and ourselves a long way ahead in this good year, 1914. We now have so much that a profession should have to give it standing that we shall all profit most by giving these our concern, for these give us standing and give the public confidence in us. Then if we have given ourselves preparations for doing efficient work, we shall be making real advancement.

The Association is doing more for its members and the profession at large this year than ever before. This is not because the Association is more interested in the profession, but because of increased support and growth of the association it has reached the point where it can accomplish more; there are now more professional movements possible for us to concentrate upon and advance.

That we take more interest this year. It hardly meets the needs that we be aroused and in earnest on those concerns which have been our problems in recent years. New ones are constantly arising. As osteopathy gains and becomes more of a force and factor new and increased opposition is raised to it, and we need that all of us should be watchful and thoughtful of the conditions confronting us and of the new dangers arising. Osteopathy is certainly worth the effort. It has been developed as a scientific fact, and as a profession it has had a rapid and sustained growth, but a mere start has been made.

At first of necessity a theory had to be set up and work done was based upon that theory; how successfully the whole world knows. Now we must understand the connecting links between the application of the treatment and the results obtained. We must understand more of the actual functioning and responses to stimulation within the human body.

Two fields of activity are, then, necessary: Scientific work in the laboratory including animal experimentation, and the study of the human frame-work as a machine, its mechanics, the laws by which it responds to and resists gravity, environment and other forces, the osteopathic lesion, and the effect of these upon the structure as such, and upon the functioning and health of the individual. In addition to this and with this as a basis, we must study more and more technique, the art of adjusting and correcting these mechanical derangements as a means of restoring health. And to this end of course properly compiled Case Records are most desirable. There are literally hundreds of activities which we could carry on successfully with the earnest co-operation of the entire profession.

That we all be real men and women this year. It is only in being real men and women that we can be real physicians. Nothing so much as the new enforced interne work in the hospitals, where surgeons are supposed to be made, operative work upon foreign-speaking people in institutions by students and surgeons-in-the-making, is stamping the feeling of kindliness and sympathy out of physicians and gaining for them a wider experience, and we grant more skill, but at the same time they become inured to suffering and distress and lovers of the smell of fresh spilled blood! Surgery and tenderness seem to be well divorced and while may be lives are saved under the new order, certainly many lives are sacrificed, and those who must suffer sickness or surgical operations in many of the hospitals and institutions find little that is kindly or humane.

Fortunately in our training and work there is little that should turn us away from natural instincts, and from the ways of the men and women who honored the profession in the role of the "old family doctor," now, we regret to say, well nigh extinct. It is to be hoped that coming in close contact with people as we do, that we may learn more of the *people themselves;* that we may get a broader grasp upon their environment, the physical and mental burdens they carry, the difficulties under which they labor, their psychology and with the real determination of men and women we may lift their lives to a higher plane as we restore their bodies to conditions of soundness and service.

THE LAY MAGAZINE—AN OPPORTUNITY

Readers of the JOURNAL should have received the initial number of the Osteopathic Magazine. (If not, you failed to sign and send to Dr. Evans the subscription card sent you. Look it up.) It is believed from expressions received that the magazine made a very favorable impression. For this we are thankful because this magazine has a place to fill and with a little patient consideration on the part of the profession, until the editor and his associates strike their gait, the magazine is going to splendidly fill a fertile field.

We want to suggest to the readers that not only should it be in the hands of patients, but it should be in the hands of many public men and particularly should it be in every reading room and public library of the land. Several

states are already finding it useful in a campaign to secure legislation. The magazine is entitled to a hearty support. In proportion to its support will be its strength and virility and usefulness.

A great many of our members used a year's subscription as a holiday gift in their clienteles, and we believe that by another year a great many thousands of copies will be so used. The Associate Membership proposition also opens up an excellent field. We have been permitted to see hundreds of letters sent to osteopathic physicians from their friends when told of the associate membership and of the lay magazine. These give an optimistic aspect to the hold osteopathy is securing upon a great many people. Among these letters many received by Dr. Franklin Hudson, of Edinburgh, Scotland, are most remarkable. We regard these letters as one of the finest tributes to the work of any physician among us, of which we have knowledge. It is an example of what faithfulness and efficiency in the practice of osteopathy will accomplish even in a far off land where the practice is least known. And it should be an encouragement and inspiration to every one of us to note the hold which one can secure upon people of the highest character and position through effective application of the principles of osteopathy. We are pleased that most of those practicing in the British Isles are meeting with splendid success, but these particular letters sent to Dr. Hudson, which we have been permitted to see, fully justify the remarks made regarding his work.

This is an incident which should encourage us in this country where osteopathy is so much better known, to thoroughly prepare ourselves to practice it and then practice it thoroughly. We shall find that many people have comparatively little prejudice or bias as to systems. They want to get well and if we demonstrate in the community that we can cure sick people, neither the advice of friends nor the restraining influence of the family physician will long prevent them from seeking our service. The main thing is to equip ourselves to do the work thoroughly and deport and demean ourselves in an honorable and dignified manner as physicians should.

THE RESEARCH INSTITUTE CAMPAIGN

While the scientific and experimental work within the Institute is progressing, the Finance Committee is conducting a splendid campaign to raise the endowment fund to $100,000 by the next A. O. A. meeting. The sum wanted is not large and this should not now be a great task.

Every osteopathic physician has been asked to send in $6.00 for the December collections and $6.00 more in May. If this response is general and generous, there will be no trouble. How many will respond? Have you responded?

The Finance Committee asks that each one of our readers get the pledge of two others to send in $6.00 semi-annually for five years or until the pledge is cancelled. Then, too, don't forget to interest our friends. Many people feel that they are under obligations to osteopathy and would cheerfully contribute some amount toward this cause. We should give them the opportunity.

There are several opportunities for combined effort. Several state organizations have agreed to finance certain specific needs about the Institute, as to equip the physiology room. Then the idea of "fellowships" has been suggested which would produce $500 or $600 a year and guarantee an assistant in the work.

Possibly some of our osteopathic colleges might wish to do this and present one each year to one of its graduates who wishes to take up this research work or further equip himself in laboratory technique or experimental work. The opportunities are many and it is hoped that on this account they will not be neglected.

The Research Institute is a real live activity and will do brilliant and absoluteily necessary work for the practice, but for a while yet must be supported by direct subscriptions.

THE CATARRHAL DEAFNESS TREATMENT

The JOURNAL publishes in this issue an interesting article on "The Radical Treatment of Catarrhal Deafness." There are several points in regard to this which should be made clear. The JOURNAL in publishing it no more vouches for it than for the experience and theories of the writers of other articles which it publishes. In the hands of Dr. Edwards and those who have familiarized themselves with his technique, it seems to be distinctly successful and no unfavorable results have been reported.

If as successful in the hands of competent people as represented, it will prove a boon to almost countless numbers of sufferers; but this possibility has in it the element of danger, for we recognize the possibility of injury as well as infection from breaking up adhesions and causing wounds in open cavities where infective agents are abundant.

Then considering the skill and experience required it appears to the JOURNAL that this work is for the specialist and not for the general practitioner, and we feel that it is proper to sound this note of warning at the time the technique is presented.

Again, while the technique has never been used so far as we can ascertain, and while Dr. Edwards states that the suggestion that started him at work on this line came two or three years ago from Dr. J. Deason, and that he had never seen or known of any of the articles on the subject from medical sources until called to his attention since his work was given out at the Kirksville meeting, the JOURNAL in presenting this article as original with Dr. Edwards is aware that articles on the clearing out of the soft tissues of the nasopharnyx as a means of obtaining and maintaining patency of the Eustachian tubes have appeared in medical magazines within the last ten years. However, so far as we know, it has never been accepted and followed by either specialist or general practitioner in the medical profession, and we do know that medical men who have seen and heard of this work of Dr. Edwards express great interest in it. The facts seem to be that the idea so successfully worked out by Dr. Edwards had occurred to other writers, but they appear to have made no practical use of it, nor does it seem to have been accepted. No medical text books, so far as we know, give it a place.

The JOURNAL, therefore, presents this technique to the osteopathic profession for whatever use it can make of it. It is no doubt too intricate and delicate to become generally used, but those who are willing to work in order to perfect themselves in it may find it a splendid field of usefulness.

THE PHILADELPHIA MEETING

The Executive Committee of the Board of Trustees met in Philadelphia early in January and among its other duties went over the arrangements for the Philadelphia Meeting with the local

arrangements committee. The committee also presented a draft of a splendid program.

The JOURNAL is pleased to state that at no place which we have visited are the facilities so ideal as the Bellevue-Stratford Hotel presents. The entire second floor with a private entrance is to be ours. The convention hall is a beauty and will accommodate almost 1,500 people. On two sides of it are other rooms, six or eight of them, accommodating from 150 to 500 people, and the space for exhibits is the best we have had.

The local committees are doing excellent work and the profession in the city is united for a great meeting. The Executive Committee has not yet determined the date for the meeting. Two dates are now open to us. One, the week beginning June 15th, the other the week of the first of August. The committee will welcome expressions from the membership as to which of these two dates will bring out the largest attendance.

In regard to the program, too much cannot be said. The most capable and accomplished men and women among us will fill it and it will be not only scientific, but practical and popular as well. The Technique Department, under Drs. McConnell and McDougall, will be even more of a feature than at the Kirksville meeting, because the facilities will be more adequate, and in addition to this the night sessions will be given over to round table discussion in which many may participate. Everything is harmonious and everything augurs for the biggest and best meeting ever in Philadelphia next summer.

Every member of the profession should now determine that he will have a part in that meeting. In addition to the splendid program, Atlantic City, the most delightful summer resort of the country, is an hour or two away and after about four days in Philadelphia, adjournment will be taken to this ocean beach.

THE CLINICAL DEPARTMENT

Six months or more ago a friend in Texas, in reply to a question for criticism, suggested a department of discussion of experience and unusual cases. He called our attention to the fact that many of the cheap medical journals, given over very largely to discussion and answers to queries, were popular with the average M. D.

We took this suggestion up with our Committee and Department Editors with the result it was determined to try the department and see if the profession would support it. K. L. Achorn accepted.

Dr. Achorn will bring to this work excellent capabilities and sincere enthusiasm for the work. But his success will depend upon the support he receives. It is not his experience we want, but that of every painstaking, observing osteopathist. With our help it should become very useful.

Departments

CLINICAL DEPARTMENT

KENDALL L. ACHORN, D. O., *Editor*, Boston

Osteopathy being an art as well as a science, a department of the A. O. A. JOURNAL dealing only with the art of osteopathic treatment has been deemed advisable. The editor of the JOURNAL says that, while this department is not to infringe upon that of technic, the need has frequently been expressed for more discussion of the *practical application of osteopathic treatment to the various diseases and symptoms.* The purpose of the department will be to collect the experiences of the profession in various classes of cases and provide answers to questions arising in practise, thus increasing the immediate, practical value of the JOURNAL.

For the complete scientific development of osteopathy, laboratory investigation must be supplemented by accurate and full clinical observation. In the present status of osteopathy a case accurately studied from the osteopathic standpoint, and reported, is most valuable orig-

inal work. For the growth of the profession and for osteopathy to realize the full benefits of education of the public, we all must be able to get the best possible results with all our cases. A fundamental principal of publicity is that an article must be good to be successfully advertised. So in affording an opportunity for exchange of experiences, this department hopes to assist in developing the clinical side of osteopathy.

For the department to be of most value, it must be practical and it must be able to draw upon the best experience of the profession. Very often we hear osteopathic physicians say: "When I get home at night after my day's work, I am too tired to write for the journals." While this may be one reason we do not hear from more of our practicians, another very reasonable explanation may be found in what has been aptly called "psychic inertia." There can be no doubt that all of our overtired and also our overmodest colleagues have learned methods and observed facts in their practises that if generally known would benefit the whole profession. Can't we get at this stored-up experience?

This department wants:—

1. Reports of Cases: If you haven't time to go through all your records and report on your methods and results in a series of cases, give us your experience along a particular line by reporting one or more typical cases. Perhaps it is too much to ask one to report mistakes, though we learn from our failures. Tell the whole story. In reporting cases we are apt to simply say, "I removed the lesion." Was the lesion acute and tender, chronic and stiff, relaxed and recurrent, primary or secondary? Did you adjust by rotation, thrust, "rocking," "moulding," stretching, or relaxation? How did you keep it adjusted? If you modified the hygiene of the patient, tell about that. Tell the whole story. The little details are what count in our work.

2. Observations: Actual experience, proved facts, and what seem to you to be facts, are wanted. Tell how your treatment affects the patient. While we lay stress upon osteopathy being primarily curative, nevertheless every practician has through necessity developed numerous useful osteopathic methods that are also palliative. Report them.

3. Questions: To be of assistance to anyone wanting better results with a particular class of cases, will be an important function of the department. Those having greater success in that particular class of cases will be called upon for their methods. By this means the methods that produce the best results will be determined.

4. Discussion: You are urged to discuss the contents of the columns. If your experience differs from those reported here do not hesitate to say so. We want to get at all the facts.

This is what you can do now: Let us know at once the osteopaths, including yourself, in your part of the country, whom you know to have had unusual results or experiences in some one sort of cases. Also ask questions or suggest subjects upon which you would like to hear of the experiences of others. Don't wait to be urged again, but *do it today.*

Address all communications to the Department Editor, 687 Boylston Street, Boston, Mass.

The two statements following are worth absorbing; one being a statement of certain osteopathic facts in re-tonsillitis, the other being a description of a very excellent and successful osteopathic method of treating "colds." Let us have your experience in these or other conditions.

"COLDS"

John A. MacDonald, D. O.

(Demonstration before Boston Osteopathic Society)

A "cold" is a name not set down in the books, nor is it a definite condition. A "cold," influenza, and la grippe seem to be names of like character but different degree. A "cold" is a "cold," a "bad cold" is influenza, a "very bady grippy cold" (many doctors use this term), is la grippe, and from any of these conditions a patient may find himself "threatened with pnuemonia." So I consider a "cold" a basic process—a condition of structural deviation from normal, with muscular contractions, congestion of respiratory and other mucous lined tracts, with consequent disturbance of function, especially interference with elimination.

The predisposing factors are well known. Any of the exciting causes, such as fatigue, prolonged exposure, sudden atmospheric changes, breathing foul air, chemical fumes, and dust, will cause an immediate and all important response, *"muscular contracture."* Muscular contractures about spinal centers connected with the irritated tracts cause structural changes to appear if such changes were not there in the first place. Deviations in the upper cervical region affect the throat muscles. The general contracture of the muscle mass centering its attachment in the hyoid bone (include in this mass the omohyoid and the digastric), apparently causes head congestion by pressure on the large jugulars.

The process in the thorax is more or less severe according to the condition of the thoracic musculature and the relative position of the thoracic frame work parts—ribs, vertebrae and ligaments.

In "colds," general contracture is present along the spinal musculature. If the operator can employ a procedure which will enable him to temporarily do away with this general contracture, he will find deeper regional contractures. These are the especially affected areas he must reach if the treatment is to succeed. They are usually found (in ordinary "colds") in the upper cervical, 3 to 7 dorsal and lumbo-dorsal regions. An important thing is to establish and hasten elimination inasmuch as obstruction to elimination is prolonging the process. The relaxation following readjustment of parts will relieve the obstruction to elimination, allowing it to proceed naturally.

Treatment: Secure temporary relief from the general contracture in the spinal musculature. For this, the familar "Dana Bend" may answer, or any forcible hyper-flexion of the spine carefully and gradually applied. As in aged cases or in conditions

involving questionable arteries the above procedure is a risk, in such cases I avoid it and go directly to the spinal region most affected. The deeper regional contracture should now show, if the general contracture has disappeared. About one-half to one minute of time elapses before general contracture returns, but that is time enough in which to select the region most involved. If these deeper contractures prove stubborn, spend no further time on them until measures are taken to temporarily relieve head congestion.

The nerve supply of the anterior cervical musculature is from the first, second and third cervical nerves. If the treatment to the upper cervical region does not very soon relieve the anterior cervical contracture: Patient lying on back, grasp the whole anterior cervical mass and hold it gently but with firm force away from the median line for a few seconds; do the same on the opposite side, taking care that the finger tips avoid the carotid sheath. This should in a surprisingly short time (two minutes) deplete the nasal mucous membrane, temporary relief of the head congestion being the sign of this depletion.

Immediately upon accomplishing this, treat upper cervical articulations for more permanent relief of contracture in the anterior cervical muscular mass. If the deeper regional contractures are still present lower down in the spine, they should now respond easily to treatment and adjustment is, as far as possible at the time, easily procured.

To recapitulate: Relax general spinal contractures; treat regional contracture apparently involved; relieve head congestion by removing obstruction; treat upper cervical articulations; avoid sudden force; leave no contractures; vary the order of procedure if any one contracture group fails to relax. If a muscle is hurt or an important irritable lesion is overlooked, failure is usual.

Repeated trials have shown this treatment effectively given in ten to fifteen minutes. The longer the treatment over ten or fifteen minutes, the smaller the chance for a favorable result. Leave enough energy in the structures so that they can return to normal. Do not use up by treatment the energy of the patient which nature must use to cure.

TONSILLITIS

(Report of the Research Committee to Massachusetts Osteopathic Society)

Nine osteopaths reported twenty-one cases of tonsillitis; five simple, ten follicular, three suppurative, and three chronic. The temperature ranged from 101 to 103 in the simple and follicular cases, from 101 to 108 in the suppurative, and was 102 in the chronic cases. The pulse ranged from 98 to 125. Bacteriological tests were made in two cases; also incisions in two of the suppurative cases. In five simple cases there was an average of 3.2 treatments with a duration of 3 days; in ten cases of follicular an average of 4.3 treatments, and a duration of 3.5 days; in three cases of suppurative an average of three treatments, with a duration of 8 days; and in two cases of chronic a duration of 13.5 days.

Lesions were reported as follows:

Occipital lesion occurs twice
Atlas lesion occurs five times
Axis lesion occurs four times
3rd cervical lesion occurs six times
4th cervical lesion occurs three times
Fifth cervical lesion occurs twice
6th cervical lesion occurs once
1st rib lesion occurs six times
1st dorsal lesion occurs twice
2nd dorsal lesion occurs once
5th dorsal lesion occurs four times
6th dorsal lesion occurs three times

Muscular contraction of the cervical and dorsal regions in nine cases where definite bony lesions were not mentioned.

Frank M. Vaughan, D. O., *Chairman.*

This was the first effort of the Massachusetts Society to get some accurate data as to osteopathic experience. Further efforts are to be made and other societies are urged to collect similar material.

SANITATION

C. A. Whiting, D. Sc., D. O., Los Angeles

NEMATODE WORMS

The term of Nematode, which means thread-like, is applied to the round worms. Those which are parasitic in the human body are either thread-like or spindle shape in form, varying in length from less than one millimeter to nearly or quite one meter in length. The outer surface of these worms is either smooth or covered more or less with hairs Most of them are plainly segmented. The sexes are usually distinct, the male worm being much smaller than the female. The eggs pass from the body of the female before they are developed.

Some parasitic worms pass through a well-marked larval stage, others undergo no particular change of form until they reach maturity. Some of them live independently of a host during a part of their lives, others spend their entire lives in the body of the host and in some cases two hosts are necessary for the complete development of the worm. Some parasitic worms are transferred from one animal to another by means of food or water, others are transferred only as the first host is devoured by the second one.

Of the several round worms no one is more generally discussed at the present time than is the hook-worm. It is now known that this worm is so widely spread and its effects upon the human system are so disastrous, that we believe that we will be pardoned for going somewhat extensively into its distribution and its life history.

The hook-worn is an intestinal worm about one-half of an inch long and is usually found in the upper part of the small intestine to the lining of which it attaches itself, and sucks the blood from neighboring capillaries. Aside from the injury which it does the patient by sucking his blood, it produces a distinct poison which is freely absorbed into the blood and this poison causes more or less of a disorganization of the blood corpuscles.

The worm which is about as large in diameter as an ordinary pin, varies in color from a whitish yellow to a dark brown or red dependent upon the amount of blood it has drawn from its host. The male worm is somewhat shorter than the female and its tail is funnel form in shape, while the tail of the female is pointed. Otherwise, the sexes closely resemble each other. The worm has a strong tendency to flex its head upon its body

and it is this pecularity which gives it its name.

The female lays from two to five thousand eggs daily after it reaches maturity. If these are deposited where conditions are favorable the young worms hatch in from twenty-four to thirty-six hours. The most favorable conditions are realized when excreta rich in the eggs of these worms is deposited on moist and sandy ground. The young worms are nourished by the excreta and in about one week are ready to enter the foot or any other part of the human body which may come in contact with the ground. Under favorable conditions the hook worm may live for five or six months in the ground before entering the human body. The worms are usually introduced into the body by the patient either sitting on the ground or standing on the ground with bare feet. A local rash usually appears when the worms enter the flesh. After getting into the blood, they are carried over the body usually leaving the blood in the lungs, they then pass up through the air passages to the pharynx from there they are swallowed and thus reach the intestine. It requires nearly three months for them to establish themselves in the intestine after they have entered the body. The local irritation caused by the entrance of the hook worm has been called by various names, Ground-itch, Dew-itch, Dog-itch and Cow-itch are some of the names which have been applied to this condition.

The worms were first discovered by an Italian physician in 1843 and it is only recently that they have been known to exist in this country. It is now known that they are widely distributed over the United States. Not only the inhabitants of the Southern States are known to be widely infected, but a number of cases have been reported in Utah, Nevada and California.

The effect produced upon the victim of hook-worm infection is most serious. The face usually presents a stupid appearance, the features are expressionless, the pupils of the eye are usually dilated and inability to see at night, is by no means uncommon. The chest is greatly flattened and the scapulae become prominent. Frequently the abdomen is swollen to a marked degree. The appetite is usually poor and more or less perverted. The "dirt-eaters" of the South are brought to this condition by hook-worm infection. The depravity of appetite is frequently shown by the excessive use of tobacco and snuff. Girls are injured by hook-worms more than boys and their development is frequently greatly delayed by these parasites. The red corpuscles of the blood are frequently reduced to one and one-half millions per cubic millimeter and the hemoglobin often falls below 30 per cent. of what it should be.

It is only necessary to know the life history of the hook-worm to know how to prevent infection. All excreta which may contain the eggs of this worm must be carefully kept from the surface of the ground, and if one is obliged to be in regions where hook-worms prevail, the feet should always be carefully protected by shoes and one should never sit upon the ground. In other words with the hook-worm danger as with most other things relating to hygiene, cleanliness and continued cleanliness is the means of protection. The health authorities of the Southern States are carrying on an important campaign of education and undoubtedly much of the poverty of the South will be abolished with the abolition of this disease which so completely unfits its victims for profitable industry. I have had no personal experience with this disease, but I venture to give the treatment which is now commonly used in the Southern States.

The first step in this treatment is the administration of a saline purgative, only a light dinner should be eaten on the day when treatment begins and this should be free from fats and oils. Just before the patient retires at night, he is given about sixty grains of thymol. Early the next morning he takes another dose of the saline purgative. After the complete action of this, the patient is again allowed to eat, although he is cautioned against the use of alcoholic liquors, and of fats and oils. This treatment is usually given three times in succession at intervals of about one week and according to reports which have been made, the results are usually satisfactory.

The diagnosis of hook-worm infection can only be made by microscopic examination of fecal matter. At the present time emigrants are carefully examined before being admitted to this country, and if they are found to be the victims of this disease, they are treated before they are allowed to mingle extensively with other people. As before stated, the only real danger from hook-worm infection is in those places where little or no attention is paid to the proper care and removal of sewage.

Pacific College of Osteopathy.

OPHTHALMOLOGY

Chas C. Reid, D. O., *Editor*, Denver, Colo.

Examination of the Eye—(*Continued*)

In our article of last month on "The Osteopathic Examination of the Eye," we gave some of the philosophy of the effect of innominate lesions on the eye. The chief point of emphasis being that a changed relation at the sacro-iliac joint caused a disturbance of the

equilibrium of the spine above and in the regaining of that equilibrium by compensation in a joint or combination of joints physiological, functional and transitional curves and osteopathic lesions in the spine were the result.

Injuries, exposure and strains to the spine may have antedated the innomminate lesion and caused weak points, muscular and ligamentous tension, local inflammations and partial immobilization of joints. All this would have its modifying effects upon the manifestation of secondary lesions from the innominate abnormality. This makes the study of the bony relations very complex and the effect upon the numerous blood vessels, nerves and other soft tissues still more complicated. Further discussion of it here is redundant.

(5) EXAMINATION OF THE EYE BY SPECIAL METHODS

The first thing after the family history, personal history, inspection of the eye and the osteopathic examination is to find out how well the patient can see. To test the acuteness of vision certain test letters are used. Snellen's Test Letters are good. The normal eye can read three-eighth-inch letters at twenty feet. The test letters on the cards usually range in size to be read at 10, 15, 20, 30, 40, 50, 70, 100 and 200 feet. The distance most desirable to have the patient away from the chart is twenty feet. If he were twenty feet away and read the twenty-foot letters his acuteness of vision would be marked 20/20 or nomal. Always use the distance away from the chart as the numerator of the fraction and the number above the letters which he reads as the denominator. If he is twenty feet away the numerator remains twenty and the denominator changes according to the line of letters seen on the test cars thus: 20/15, 20/30, 20/70, or 20/200 may express the vision. If the patient could not see the 200 foot letters at twenty feet he must be brought nearer, say ten feet, for him to see the large letters; his vision would be 10/200. These fractions representing the acuteness of vision may be expressed in meters. Some charts have letters numbered that way.

If the vision is good enough for small objects to be clear the near point should be taken. This would show the amount of accommodation the eye has. This is expressed in diopters.

WHAT IS A DIOPTER?

A diopter is the unit of measurement of the refractive power of lenses. Lenses are numbered by their refractive power in diopters. A lens that has a curvature that will refract parallel rays of light and bring them to a focus at one meter distance is said to be a one diopter lens. This unit of measurement for the refractive power of lenses was proposed by Nagel in 1866. It soon became quite universal.

The focal distance of a lens decreases as the strength of a lens increases. One diopter lens (written 1 D) has a focus of one meter (1 M) or 100 cm distance. 2 D lens has a focal distance of ½ M or 50 cm. 4 D lens has 25 cm focal distance and a ½ D lens has 100 cm÷½=200 cm distance or 2 M. Trial cases have in them lenses varying in strength from .12 or .25 D to 20 D of the spherical form. We will not discuss the trial case here.

WHAT IS ACCOMMODATION IN THE EYE?

Accommodation in the eye is the ability of the eye to vary its focal point. When the normal eye (emmetropic) is at rest its focal point is at infinity so far as parallel rays are concerned. This is called the far point or the "punctum remotum." (P. R.)

When the eye looks at letters twenty feet away it scarcely accommodates at all to get a focus, so little that it may be disregarded in ordinary practice. Now if one brings fine print close to the eye he will find a point so close that it becomes indistinct. This point is the near point of focus or the punctum proximum. (P. P.) The range of accommodation is the difference between the refractive power of the eye when it is at rest and when the accommodation is exerted to the utmost; the difference between the P. R. and the P. P.

If one must accommodate one diopter to get a focus at one meter or forty inches distance, at thirteen inches or reading distance one must accommodate at least 3 D in order to see the letters clearly. If 3 D were the total of his accommodation he could not read at that distance but a few minutes; because the accommodation could not be held at its maximum for long at a time. Eye strain with its train of symtoms would result. Hence it is quite important to find the near point or punctum proximum in order to judge in regard to eye strain in an emmetropic eye. If there is a refractive error, allowance for it must be made accordingly.

As a person gets older the accommodation in the eye becomes less and less until at 45 years of age he can only use 4 to 5 D of accommodation. This is so close to the amount required for reading that he has some eye strain He begins to hold his paper farther away from him so he requires less accommodation. This condition we call "old sight" or presbyopia. An emmetropic eye at forty-five to fifty years of age requires a plus glass to make up for some accommodation in reading.

Frequently there are latent disturbances of equilibrium of the extrensic muscles of the eye. This is heterophoria. If it is a latent

convergence it is esophoria; if a latent divergence it is exophoria. The last is more frequent. Hyper and hypophoria are used for upward or downward tendencies. Normal muscular balance is orthophoria.

Cause the patient to fix on an object about thirteen inches away, with both eyes; push a sheet of paper in front of one eye and watch behind the paper, the eye thus covered. If heterophoria exists the eye will move slightly from its point of fixation since it no longer sees the object. In orthophoria it will remain fixed as long as the other eye sees the object; the innervation to the different muscles is properly distributed.

A Maddox rod found in any complete trial case may be placed before one eye. Have the patient fix on a candle flame, say twenty feet away. The flame appears drawn out into a luminous line. This line can not be fused with the candle flame as the other eye sees it if there is heterophoria. The amount and kind of disturbance is somewhat indicated by the distance and direction of the luminous line and the flame. The exact amount can be measured by the use of a prism that will cause them to fuse.

Next the patient should be taken to the dark room and a careful inspection of the anterior segment of the eye should be made with oblique illumination. First use the unaided eye, then use a lens that magnifies. The 20 D plus lens from your trial case will suffice for the magnification. Note the transparency or lack of it in the cornea and crystalline lens; the depth of the anterior chamber and the appearance of the pupil and iris. Now we are ready for the ophthalmoscopic examination.

(Examination of the Eye continued in next number.)

Majestic Bldg.

HYDROTHERAPY

W. Wilbur Blackman, D. O., Atlanta, Ga.

THE NAUHEIM BATH

The Nauheim effervescent bath has become one of the fully recognized procedures of Hydrotherapy and is most efficient in the treatment of certain diseases, especially those of the heart. With these baths, the names of Doctors Schott will be indelibly associated, for it was through their unceasing labors that the baths of Nauheim, Germany, gained their reputation and produced such excellent results. Doctors Schott generously insist that artificially prepared baths resembling the natural Nauheim baths obtain results practically identical to those of the natural waters of this famed spa.

The value of therapeutic measures which are capable of promptly relieving an overburdened and laboring heart, without recourse to drugs, the use of which may sooner or later be attended with toxic, or, to say the least, undesired effects, is so obvious that it does not stand in need of elaboration. Professor Schott affirms that "benefit may be expected in *all cases of chronic heart disease* except where the myocardium has reached an advanced state of degeneration, or the vessels are the seat of advanced arterio-sclerosis."

Schott calls attention to the fact that the chlorides of sodium and calcium are the salts most active in the waters of Nauheim. For the artificial production of carbon-dioxide effervescence, the action of hydrochloric acid on sodium bicarbonate may be relied on. It should be noted that the Nauheim bath is a saline carbonic-acid-gas bath of neutral or below neutral temperature.

The immediate effect of immersion in the Nauheim bath is to reduce the frequency and increase the force of the heart's action. The first few baths produce a sense of depression at the praecordium, under the influence of which the patient breaths slowly and deeply for two or three minutes. Respiration then becomes easy and continues slow. The effect on the peripheral vessel is to increase their carrying power. A glowing sense of warmth is experienced. The general arterial capacity, systemetic and pulmonary, is increased, says Thorn, and, without loss of blood, the relief of a general bleeding is afforded to an overloaded heart. The heart, contracting fully and without hurting on its contents, derives from an improved coronary circulation materials for the repair of its weakened or damaged tissues. Recession of a displaced apex beat more than half an inch toward its normal location during a single bath of ten minutes is frequent, according to Thorn, and Pope says, "the enlarged and feeble heart is contracted often twenty per cent. during a single treatment." In cardiac disease, the baths are given in conjunction with graduated resistive exercises, (the Schott exercises), which are fully as essential as the baths and should be administered by the physician. The Schott exercises must be given with absolute fidelity to detail.

"Diseases of the Heart," by Thorn (P. Blakiston & Son Co., Philadelphia), is a small book which one should read for its explanations of the baths *and exercises*. Shepard Pharmacal Co. or Schiefflin & Co., of New York, supply prepared Nauheim Salts and more or less complete instructions.

A course of baths consists of twenty or thirty, given daily, except on Thursday and Sunday, for instance. The usual porcelain bath tub is used of sufficient length to permit the patient to recline comfortably and containing enough water to well cover his body.

The following plan of preparing and grading the baths is given by Pope. I have always used the prepared bath salts, but in the future, shall follow this plan:

Bath No. 1—Temperature 94 degrees F., duration 5 minutes, sodium chloride 4 lbs., calcium chloride 6 oz.

Bath No. 2—Temperature 92 degrees F., duration 6 min., sodium chloride 5 lbs., calcium chloride 8 oz.

Bath No. 3—Temperature 90 degrees F., duration 7 min., sodium chloride 6 lbs., calcium chloride 10 oz., sodium bicarbonate 8 oz., HCl 7 oz.*

Bath No. 4—Temperature 88 degrees F., duration 8 min., sodium chloride 6 lbs., calcium chloride 10 oz., sodium bicarbonate 8 oz., HCl 7 oz.

Bath No. 5—Temperature 88 degrees F., duration 8 min., sodium chloride 7 lbs., calcium chloride 10 oz., sodium bicarbonate 8 oz., HCl 10 oz.

Bath No. 6—Temperature 87 degrees F., duration 10 min., sodium chloride 7 lbs., calcium chloride 10 oz., sodium bicarbonate 8 oz., HCl 10 oz.

Bath No. 7—Temperature 87 degrees F., duration 10 min., sodium chloride 8 lbs., calcium chloride 11 oz., sodium bicarbonate 12 oz., HCl 14 oz.

Bath No. 8—Temperature 85 degrees F., duration 12 min., sodium chloride 8 lbs., calcium chloride 11 oz., sodium bicarbonate 12 oz., HCl 14 oz.

Bath No. 9—Temperature 85 degrees F., duration 12 min., sodium chloride 10 lbs., calcium chloride 12 oz., sodium bicarbonate 1 lb., HCl 1 lb.

Bath No. 10—Temperature 85 degrees F., duration 15 min., sodium chloride 10 lbs., calcium chloride 12 oz., sodium bicarbonate 1 lb., HCl 1 lb.

Baths Nos. 11-20—Temperature 83 degrees F., duration 15 min., sodium chloride 10 lbs., calcium chloride 12 oz., sodium bicarbonate 1 lb., HCl 1½ lbs.

During the bath the patient lies as quietly as possible in the tub. When the time is up he is assisted from the tub and dried with a warm towel. Following this he must always lie down for an hour or more, so as not to in any degree undo the good effects of the bath. The pulse should be counted, auscultation and percussion performed and the sphymomanometer and sphymograph used, whenever practicable, before and after Nauheim baths or Schott exercises.

Note: In preparing these baths the saline ingredients should be first dissolved and then the HCl (commercial) added. To rapidly prepare the bath invert the bottle below the level of the water, remove the stopper and move the bottle over the surface of the bath so as to distribute the acid evenly over the surface and secure uniform effervesence.

Robertson-Blackman Sanitarium.

A. T. STILL RESEARCH INSTITUTE DEPARTMENT

C. M. T. Hulitt, D. O., Cleveland

PARAGRAPHS

The Institute in concrete form, doing real work, has an effect on people, even members of the profession, that a prospect did not have. Its needs seem to be more real and its possibilities more convincing than any statement in abstract form could be. This is shown in the way in which people have been moved to help in supplying those needs. The following are some of the recent gifts:

Books, journal and magazine subscriptions, and money for the library, by a number of people.

R :g, by Drs. Phillips & Phillips, Kalamazoo, Michigan.

Money for a sign on the building, by Dr. Backus, Stockton, Ill.

The Pennsylvania profession is raising a special fund to equip the physiological laboratory.

The Ohio profession is raising a similar fund to equip the library.

A Michigan layman, incognito, who wants to further the cause of osteopathy, has offered to contribute an X-ray machine at a cost of about $1,000.00. This puts Michigan next to Massachusetts, a patient of Dr. S. A. Ellis having sometime ago given him a check for $2,500.00 for the fund.

Dr. Deason gave the Institute a commission on all copies of his book sold at the convention in Kirksville, amounting to about $200.00, which is turned into the library fund.

These gifts by the profession are extras, aside from $1-a-month payments, or any other regular subscriptions. The two societies are not appropriating from their treasuries but are raising the money by a special collection. In this connection is a point that should be guarded. Kentucky, New Jersey, Wisconsin, Oregon, South Carolina, Colorado and West Virgina societies have each made an appropriation from the treasury of the society to the Institute. That money is as good as any other and the action shows the right spirit. But a little reflection may show that it may not be good business. If it should be that any considerable number of the state members ex-

cuse themselves from contributing personally on the ground of the state appropriation, it might prove a losing deal for the Institute. That $100 appropriation might be the cause of the loss of $1,000.00 the members would otherwise contribute. Officers of state societies should always guard this point carefully, and have it clearly understood that the appropriation from the state treasury does not discharge the individual obligation. Indeed it is possible that sometimes the treasury money would do more good if carefully expended in a statewide campaign of education and solicitation to get members on the paying list. Whatever will make the largest addition to the endowment fund is the thing that should be done.

Queer notions some osteopaths have of research. It came about on a time that two were overheard exchanging lugubrations, something like this: "This experimenting on animals is all right, I suppose, although I don't know whether it goes very far. But when they come to experimenting on humans, then lookout! The medical authorities will get after them sure." Scared stiff, and at trouble by proxy, too.

Dr. Deason and his corps are busy these days as his reports of progress in this and future journals will show. Incidentally, too, will be shown how everything is grist that comes to the research mill, and that even misfortune, as in the shape of sick monkeys, by being stood on its head, may be turned to profit. Osteopathy needs an immense lot of technical laboratory work to permit of a comprehensive statement and scientific establishment of its principles.

But this is the lesser part of its research work. Clinical research will make practical the abstract laboratory findings. The "experimenting on humans" this involves we may suppose to be something after this fashion: Given an acute case. Throughout its entire course every possible laboratory test that may be required, chemical, microscopical, physical, structural; analysis of urine, feces, sputum, and other excretions; blood count, and pressure, opsonic index count, Widal, or other special tests; anything having a bearing on the case will be repeated daily, hourly, even minute by minute in some cases; to assure a complete record of every change in the body during the course of the disease, such as no physician could carry out in ordinary practise. And this must be repeated in hundreds of cases of the same disease; and the same process must be carried out in all the range of disease in every form.

You say this has all been done and recorded in medical literature. True, but we have to do it al over again to know just how and where osteopathic treatment affects the course of events; just what is the effect of certain technique, and just what technique is best in every possible condition, as shown in the effects revealed by this exhaustive laboratory study, so that when you put your hands on a patient you know what is happening under them and what is likely to happen following the treatment. Suppose you had a "Practise of Osteopathy" written on the basis of such a system of records, what would it be worth to you? Case reports could then be made that would mean something.

This is what the Institute clinic and hospital is to be for. And it cannot be provided any too soon. Slight remodeling of the new building at small expense would fit it to serve that purpose for a few years. $250,000 would fit it up and maintain it and the related research work on a small scale.

Such a layout we might regard as our experiment station in which we would learn what we wanted to do and the best way to do it, so that later we could expand into the larger institution with the assurance born of experience. The Council and Director ought to be able to start a clinic now so that people in the vicinity of the Institute would learn of it and get in the habit of coming there for help, and then when the hospital was ready a clientele would be ready.

The money is ready somewhere for the larger work. The Finance Committee wants the help of the profession in finding and securing it. Some members of the profession present it to their patients themselves. Others cannot do so, although among their patients may be a number who would like to do something for osteopathy, and would do so if they knew of this opportunity. Is osteopathy then to lose the possible help of these, its friends, kept away by their osteopathic physician? In such cases a way out would be a formal letter of application in the name of the Board of Trustees addressed to the person. The Board would be speaking for the A. O. A., the national organization of the profession, which in turn is speaking for osteopathy. So such a letter would be Osteopathy's appeal. It would be sufficiently direct and personal to call for an answer. If the one addressed then elects to ask his physician about it the latter can be governed by the circumstances as to what he shall say, and as to further negotiations. The main point is that the osteopath is relieved of

taking the initiative in the matter. If the other party does not refer to it the physician is not embarrassed.

One thing the members must do—send in the names. You know where these people are; we do not. You send in the names and we will do the rest. The larger the number of these letters we can send out the greater the probability of favorable consideration of some of them. If you know of a friend of osteopathy who might be interested, and will communicate with us, we shall be glad to take the matter up with you. There are no hard and fast rules in this, but each case is to be treated on its merits. Any special features you know of will help greatly in getting at the right procedure.

The trustees and officers could and have evolved plans, studied osteopathy's needs, devised methods for meeting those needs to the best of their ability, put into operation as much as funds allow, tried to inform and interest the profession in the enterprise, and in every way exerted themselves to discharge the responsibilities the profession placed upon them. They have made all possible preparation of plans, literature, and actual work, that philanthropists might require to enable them to decide whether the Institute is such an enterprise as they want to support. But the individual member stands between the Board and the possible donor. It lies entirely with the practicians of osteopathy whether its wealthy friends shall have opportunity to make osteopathy one of the causes to which they contribute. If the osteopath keeps mum his patient may be able to find and reach osteopathys needs over his head. But he ought to be brought into touch with those needs through the agency of his physician, either directly or indirectly? The way is indicated in these paragraphs. Each member either helps or obstructs. Which are you doing?

What happens under your hands when you rotate a vertebra to the right? What happens when you rotate a vertebra to the left? What happens when you line up a tilted vertebra? What happens when you raise a depressed rib? What happens when you lower a raised rib? What happens when you replace an anterior innominate? What happens when you replace a posterior innominate? What happens when you correct a right anterior occiput? What happens when you correct a left anterior occiput? What happens when you correct any bony lesion?

Just what is it that happens under your hands when your patient feels a change at once after your first manipulation? What is that change? What has happened in his body when he gets up from the table after the treatment feeling better? What has happened when he feels better all the time until the next treatment? When he gets well under your treatment what kind of a mirror, or X-ray, chemical, microscopical, physiological, pathological, biological, will enable you to see and to know just what happened in his body? You don't know.

You have read of a river that runs under a mountain. Throw a stick in at the upper side, and if you are spry, catch it as it comes out below. But you don't know where it has been.

Drs. McConnell, Deason, Burns and others have made a few preliminary borings trying to map out that underground stream. A lot more surveying, boring and finally a complete tunnel through the mountain will be necessary to solve the problem.

What happens exactly under your hands in osteopathic treatment? What happens exactly in living bodies in the fact and in the effects of a lesion?

What happens?

Case reports alone will never tell you. The Research Institute must dig that tunnel. Then case reports will mean something.

CORRECTIVE EXERCISES

R. Kendrick Smith, D. O., *Editor*, Boston

The leading article in the November 29 issue of the *New York Medical Journal* will be of particular interest to this department as it is a rather revolutionary announcement regarding the "cure" of ataxia. This will appeal particularly to osteopathic physicians, as the author, William J. M. A. Maloney, M. D., of the New York Post Graduate School, dismisses in a word the use of salversan and other medicinal measures and even severely criticises the Frankel system. In their place he sets up a complete and very interesting new plan of curing the disease by means of exercises alone.

"Frankel insists upon the control of movement by vision as indispensable to success. The patient must follow every movement visually. Says Dr. Maloney:

> **The less vision monopolizes attention, the less the distraction, the more perfect the discrimination of sensations from other spheres. The sphere in which the ataxic needs enhanced perception is the sphere of the muscular sense impressions. Blind tabetics teach us, and the personal experiences of Doctor Wachsmann and of myself, have recently proved clinically, that the way to teach ataxics to perceive their residual muscular sense impressions, is to eliminate vision. Movement should not therefore be taught as Frenkel teaches it; the patient should not be directed to follow every movement with his gaze; he should be taught to move blindfolded.**

I would insist upon the value of blindfolding from the very beginning of the exercises from the very first lesson. Ataxia itself is a fertile source of fear. If we relieve the ataxia, we, to that extent, relieve fear. * * * *

I begin the treatment of ataxics who are not bed or chair ridden by utilizing simple mechanical aids to minimize ataxia when walking. A high shoe or boot, specially strengthened with leather on the outer side of the ankle, increases the support at the ankle and prevents the foot turning in. The heel is low, wedge shaped, the base of the wedge being on the ground, and is continued along the outer side of the shoe. A welt as broad as the patient will permit (usually about one-quarter inch projects) surrounds the sole, A steel plate is (in the beginning in severe cases) placed in the sole to prevent bending. The shoe should be as light as is consistent with maintaining its shape. When the shoe is on the ground it rests with its whole bearing surface. The patient gets support from every part of this broadened surface simultaneously. He does not oscillate every time he puts his foot down. He feels more secure. He is more secure. He is readily weaned from the straddle legged attitude which is so disconcerting to coordinate walking. As he feels more secure, he fears less, and the psychotherapy of the physician does not cease with the medical visit. Most tabetics have faulty arches. Appropriate arch supports are of the greatest value. The first step in treatment is to minimize the mechanical disabilities of the ataxic. The occasional sudden "giving" at the knees and ankles has a very demoralizing effect upon ataxics. The "giving" is mainly due to the loss of muscular tone, but may partly arise from the overstretching of the hypotonic muscles inducing the reflex, contraction. To avoid the "giving," I lightly support the knees by a bandage of elastic webbing.

The patient is made to lie down, blindfolded. He is enjoined to dismiss all thoughts of extraneous affairs, to allow his mind to tranquilize, and to attend strictly to what he is told. The room is maintained as quiet as possible to avoid distracting him. He is then ordered to relax the muscles first of his face, then of his neck, then of his trunk and then of his limbs. Each order is repeated and restated, first alone, and then linked with the preceding order. The whole process is conducted slowly and with suitable pauses. * * * Patients report spontaneously that these blindfolded relaxation exercises greatly improve their sleeping power. Arrears of sleep are made up and pains often disappear under the improved mental condition which now ensues.

After general relaxation has been practised, attention is specially directed to one region, say the right lower limb. Relaxation of the ankle, knee, and hip muscles is then insisted upon. First each is separately considered, then reconsidered, and finally all are linked together so that as great a degree of muscular relaxation as possible is obtained in the chosen limb.

Next movements are begun. Passive flexion and extension of the ankle is first practised. The foot is placed in extreme flexion, and the patient is instructed to count slowly while the physician at a uniform rate moves the foot to a position of complete extension, pauses, and then returns the foot to complete flexion. Next the patient lightly but steadily resists the passive movement. Then the movement is practised with the patient performing and the physician aiding and guiding. The physician's aid gradually lessens as improvement occurs. And then the movement is executed by the patient alone. Finally, the movement is made against resistance. It is essential that the movement should always be completed by the return of the limb to the position from which the movement started. During every movement the patient counts rhythmically. After the ankle, first the knee and then the hip of the same limb are educated. All exercises are done without shoes. * * * *

The limb movements which are practised in the recumbent posture may also, if possible, be practised, as occasion permits, in the sitting posture. From the right lower limb we proceed to the left, relaxation, passive, resisted passive, combined passive and active, active and active resisted movements at each joint are practised as before.

Before any attempt is made to teach progression the trunk muscles must first be coordinated by relaxation and movement. This is usually easy for, the upper limbs being seldom ataxia, may be used to practise lateral and forward thrusts, elevation to the sitting and resumption of the recumbent posture, with aid and against resistance.

The head and neck muscles are similarly treated. Their treatment is just as important as that of any other part. The position of the head largely governs the attitude of the body. * * * *

The whole body must be taught to move harmoniously. The first essential of stability in walking is stability at rest. After the exercises in the recumbent and sitting postures have been completed the first attempt at progression is made. Kneecaps similar to those used by carpenters, but well padded, are tied on the knees and the patient is instructed in creeping. After creeping has been practised for some time, first, changing from the creeping posture to kneeling up, and then, rising from the sitting posture to the upright are attempted.

In the erect kneeling posture progression is practised. Progression in the creeping and erect kneeling postures trains a person to move his body *automatically* with his lower limbs. This training is invaluable as an aid to walking. The dire dilemmas, which to move first, the body or the leg, how much to move the one without the other, are obviated, and the transition from standing to walking occurs almost imperceptibly.

Finally walking is taught. To maintain direction during blindfold walking, strips of carpet or linoleum are again used. These strips should be arranged parallel with the walls of the room so that the patient may at first "feel" his way. As proficiency increases the patient passes from a forty-inch width of carpet or linoleum to thirty, twenty-fifteen, and even ten and five-inch widths.

Current Comment

CHAS. C. TEALL, D. O., *Editor,* Fulton, N. Y.

VIBRATION, EXERCISE, THERAPY *and* APPARATUS

This report is from the pen of the Chairman, Dr. Snow, and appears in the *Journal of Advanced Therapeutics.* Its interest is largely that of curiosity on our part as it shows how rudimentary and childish are the efforts of the exponents of the old system to meet the osteopath with something "just as good" and still not call it that name. As has always been the case when discussing such treatment, they never arrive at the real point at issue, i. e., the bony lesion.

In therapeutics (vibration), it fills an important place as well as being an aid in diagnosis, and in the hands of a skilled operator it gives relief to patients whose ailments are not amenable to drugless methods and who otherwise would drift to fakirs and faddists.

No well regulated report on this subject ever fails to use language similar to the above.

How can an operator be "skilled" in a subject of which he knows nothing but which "fakirs" and "faddists" have developed to a point where the allopathic brother can no longer ignore it. Dr. Price, one of the committee, said in part:

Another convenient use was in a man forty years of age, who had, about two weeks previously, been thrown—in a railway accident—head first across the opposite curtain pole, his body being doubled and injured much, as he weighed over 200 pounds.

He had been confined in a hospital until this time, and his chief symptom outside of general soreness and pain was immediate and persistent vomiting after the taking of all ordinary foods, more especially upon trying to sit up. This was not accompanied by marked nausea, but by great loss of flesh and strength. The fourth dorsal spinous process was prominent and deviated to one side. Evidently a partial unilateral dislocation (or subluxation) of the fourth and fifth transverse process articulation, causing pressure on the nerves.

The patient was placed in the prone position upon supports, making the back as convex as possible and the hard ball vibratode with the dorsal muscles in this region for about ten minutes when the vibration and considerable force were exerted directly upward, on and below the displaced transverse process of the fourth vertebra, while at the same time the other hand applied pressure to the spinous process of the fifth vertebra, resulting in immediate and complete reduction of this partial dislocation, the spinous process coming in direct line.

This sounds good and reminds us of the claims of the early vibrator manufacturers who promised to give us a machine that was more than human. The discussion following is really interesting:

Dr. W. W. Wilkinson, of Phoenix, Ariz.: Just a word concerning slight dislocations. Some years ago in the mountains of Colorado, while maintaining a hospital in a mining camp, I was called one morning to see a man who had fallen backward the previous night, while in a sitting position, from an elevation of sixteen feet. I reached him about eight hours after the accident. At that time he was completely paralyzed from the waist down, but had not been so immediately following the accident. He lived seven weeks. The rectal and bladder sphincters were also paralyzed. We cut down on the vertebrae in the dorsal region, and could not find any evidence of dislocation on examination. Post mortem by passing our fingers up and down the vertebrae anteriorly was found a slight dislocation. It was about the ninth dorsal vertebra. On opening up the canal there was just a barely noticeable break in the contour along the anterior side of the canal, and yet that slight dislocation had maintained this complete paralysis and caused death within seven weeks.

So that it seems to me we should be very careful when we talk about dislocation, when that dislocation, apparently so slight, produced so serious a condition.

Dr. Louis von Cotzhausen, of Philadelphia: I listened with a great deal of interest to Dr. Snow's paper, especially as I reviewed her book. I am sorry Abrams is not with us. Dr. Arnold Snow's book has certainly given us something we have no possessed heretofore, and in itself is an exceedingly valuable addition to the literature on this subject.

Going back to Dr. Price's dislocation, I for one have very little confidence in these dislocations of the spinal vertebrae. I have studied them up with the view of using vibration, or spondylo-therapy, or reflexo-therapy, as I prefer to call it. Since last year I have done a great deal of work in that line, and I have yet failed to find the first spinal dislocation. In all those cases—and prominent men will agree with me—we have simply a sprain, or some defect, or some out-of-the-way condition of the ligaments or the muscles holding those spinal vertebrae, and not of the bones themselves. For my part, I have come almost to the conclusion that there is no such thing as a spinal dislocation. When we have that the patient usually is dead. When the spinal column is dislocated the spinal cord is apt to be injured, and nothing will do it any good. In nine hundred and ninety-nine cases out of a thousand it is simply a question of the ligaments or the muscles. There is no watch built as finely as our spinal column, and when we have an apparent dislocation we have simply a separation on one side and a pulling together on the other side. Why do osteopaths and neuropaths get good results? Their most eminent men say that when they are successful they are simply good masseurs, and when they are bad masseurs they do mischief.

I have the greatest admiration for Dr. Snow. She has certainly given us new data, and everything in that line helps cure our patients. She has gone deeper into it than any book I have read on vibration, and she is certainly an authority on that subject.

Dr. Mary Arnold Snow: I would like to say just a word in reply to Dr. Cotzhausen in regard to Dr. Price's cases. Dr. Pilgrim studied vibration under an osteopath, and his view was that vibration of the fourth dorsal on the left side would open the pylorus. I will let Dr. Price respond to the discussion of his report.

Dr. Price, of New York: Dr. von Cotzhausen says that he has very little confidence in dislocations of the spinal vertebrae—probably his confidence would increase should he be so unfortunate as to obtain one in himself.

He says he has studied them up since last year, but even so has failed to find one. They are more likely to be found, or when found more real, in the human being than in books, though their existence is frequently affirmed in books. He says that in all those cases we have simply a sprain, or some defect or some out-of-the-way condition of the ligaments or muscles holding those spinal vertebrae. I agree with him, and as a result of "some defect" or "out-of-the-way condition" (which he admits) sometimes slight displacement of one or more articular surfaces occur and sometimes severe, for with such stretching or tearing of attachments (as recognized by authorities) the support to the articulation is weakened, but fortunately the patient does not always die—one is occasionally seen walking around long afterwards.

He later admits and places the proportion of such dislocations as 1 in 1,000. If he means by that, one dislocation to every 999 spinal injuries, I do not doubt that his percentage is liberal. If, however, he implies that the 999 are diagnosed as dislocations, I would prefer to believe the more practical men who saw the cases and made the diagnoses.

He further says that "when we have an apparent dislocation, we have simply a separation on one side and a pulling together on the other side." Precisely so, and this "separation" either is, or may give rise to, what is quite correctly termed a partial dislocation, or subluxation.

Dr. Price has the correct idea and administers the right sort of rebuke to the doubting one. No report on such a subject can fail to hand a bouquet to the tack-hammer expert which is as follows:

In the realm of spondylotherapy so ably developed by Dr. Albert Abrams, it is an agent worthy of consideration by all. The study of spinal tenderness

and its relation to the various organs and tissues as well as that of spinal control of distant parts is but in its infancy, and to my most honored and able co-workers I ask for its consideration.

We have been pondering on the genesis and parentage of this most original and remarkable discovery and have become convinced that it is to the Chattanooga Vibrator that we are indebted, plus Kirk's physiology, for the literature of that concern is almost as definite and convincing as that of Abrams. The idea is identical and the only deviation in technique is rapid vibration *vs.* the slow tack-hammer. Science is, or should be, always honest and the pilferer of ideas is as roughly handled as the plagiarist in literature. Let's give credit where credit is due and proclaim that the Chattanooga Vibrator is the discoverer of spondylotherapy, reflexo-therapy and all the rest along that line.

RADIUM IN MEDICINE AND SURGERY

In the same journal as above this editorial in part is clipped as it is opportune in view of the sensational press reports coming from an authority like Howard Kelly and others as to the use of radium in cancer.

The movement instituted in this country looking to the establishment of facilities for the production of radium from our rich American sources of this new mineral, together with the discussion and the reports of its reputed wonderful properties in the treatment of various affections, as of gout, hypertension and cancer, is arousing a remarkable interest in this new and more or less mysterious agent.

Those who are familiar with the uses of electricity for the relief of many of the conditions named are not so enthusiastic over some of the attributed uses of radium; because better results have already been obtained from the static and high frequency currents, mechanical vibration, light and the X-ray, than the most ardent claims made for radium have indicated. Better results are constantly obtained by those who are familiar with the rational use of other physical agents in all functional diseases.

We are all familiar with the claims made for the X-ray as soon as it was discovered and how soon it fell into disuse as a cure for cancer save in superficial growths. While these conditions appeared to be cured they had a way of reappearing. The same has been observed in using radium and had brought a statement from Dr. Kelly to the effect that only a few forms of cancer were amenable to treatment by radium. It seems that only strange and mysterious elements can be made use of by the medical profession in their quest for the ever elusive cure.

CALLS RADIUM CURE A "HOAX"

GERMAN CANCER SPECIALIST SAYS EVEN KNIFE DOESN'T DESTROY

Special Cable Despatch to THE SUN.

BERLIN, Jan. 3.—Prof. Ernst Schweninger, a prominent specialist, writing in the *Neue Rundschau*, characterizes the contention that cancer may be cured by radium and mesothorium as a "gigantic hoax."

"All the weapons hitherto used to fight cancer, surgical as well as local applications," he says, "have only one result, temporary alleviation, but there have been no permanent cures. Mesothorium is possibly a useful medium, but it is by no means an ideal cure."

By this it would seem that a great cruelty had been done in raising the hopes of the unfortunate cancer sufferers that a specific had been found only to be disappointed again. The sensational notoriety given the utterances of Drs. Kelly and Abbe has duplicated the Friedmann serum sensation of a year ago and victims of two of the most dread diseases human flesh is heir to have had their hopes raised and dashed in quick time.

THERAPEUTIC NIHILISM

The outspoken disbelief in drug omnipotence by many leaders of the medical profession has always been a thorn in the flesh of the faithful and they have ever made an effort to break the effect of such statements. Says the *Medical Standard*:

This epidemic disease of therapeutic nihilism took its rise from certain half-baked statements made by some high in the profession—beginning with Oliver Wendell Holmes, who, we believe, said something to the effect that if all drugs were in the bottom of the sea it might be worse for the fishes, but it would be better for mankind. Such expressions were quickly seized upon by the spine manipulators, nature curers, those who believe in treating all diseases by incantations and other of the motley cults, and did scientific medicine much harm in the minds of the restless and shallow.

But that day is happily rapidly passing, and there are now many indications that internal medicine is about to enter into its most triumphant era. If within the next twenty years we are able to do no more than equal some of the notable discoveries of the past twenty—that in itself will be worth striving for. The field is a rich one since there is scarcely any limit to the vast variety of substances to be studied that promise to yield interesting results with respect to their physiologic and therapeutic actions. There are, on the one hand, such new chemicals as those of which radium is a striking example, while the place in the mechanism of metabolism even of such a simple substance as calcium is just beginning to be understood.

There is no question that there is a vast field for experimentation and that many a subject will bite the dust while the claims of the many candidates for therapeutic favor are being presented but, in the end, the result will be the same—disappointment.

STOMACH ULCER AND STREPTOCOCCI

The production of ulcer of the stomach by means of introduction of streptococci is discussed by Rosenow in the *Journal A. M. A.*, and his summary is:

Intravenous injection of streptocci of the proper grade of virulence may be followed by ulcer of stomach and duodenum. The ulceration is due to a localized infection and secondary digestion. The ulcers are usually single and deep with marked ten-

dency to hemorrhage and perforation, and resemble the human gastric ulcer in many respects. When we take into consideration this close resemblance, that injection of streptococci which have grown in tonsils produce the lesions, and that the virulence of the germs when the affinity for the stomach is greatest is of such character that a general infection does not occur, it appears altogether reasonable to suppose that in man gastric ulcer may be caused by streptococci also. The supposed relation between infected tonsils or guns and gastric ulcer may be due not to the swallowing of bacteria, as usually supposed, but to the entrance into the blood of streptococci of the proper kind of virulence to produce a local infection in the wall of the stomach. Many other observations might be cited such as associated infections of the gall-bladder and appendix, which suggest that gastric ulcer may be due to streptococci.

This is a rather far fetched theory of the cause of this lesion and the following from *Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena,* is much more to our liking:

WHY LIVING TISSUE IS NOT DIGESTED BY ITS OWN JUICES

Kawamura's research seems to establish the presence of an antipepsin in the circulating blood which prevents the gastric juice from digesting the stomach walls. Only when there is some interference with the blood-supply, shutting it off from a certain area, is the corroding juice able to exert its destructive action on the tissues. A gastric ulcer is thus primarily the result of shutting off part of the blood-supply from the wall of the stomach at this point.

This is in keeping with the osteopathic idea of this disease and is without doubt correct. The same journal speaks of neurotic duodenal ulcer in part as follows:

Westphal and Katsch report from von Bergmann's clinic at Altoona thirty cases of duodenal ulcer confirmed by operation or necropsy, calling attention to the varying clinical picture in this material. The presence of the ulcer keeps up a constant irritation of the vegetative nervous system, and this may manifest itself at points remote from the actual seat of the ulcer. Most of the symptoms are the work of the secondary gastric neurosis, and the fluctuations in the neurosis are responsible for the objective findings and for some of the symptoms and subjective disturbances. The peculiar tenacity of the neurosis is due, they think, to the anatomic lesion which prevents the vegetative system from getting any rest or regaining its balance.

Just what the "anatomic lesion" is they do not mention, but we opine it could be found in the region of the great splanchnics.

DELAYED ABDOMINAL PAINS

At one time pains coming on several hours after food was regarded as almost pathogenic of a lesion of the pylorus. To this delayed pain Loeper contributes an interesting article (*Le Progrès Médical,* July 16th, 1913). It is found in a large number of abdominal disorders, more especially in disorders of the liver, pancreas, colon and kidneys. The pain of hepatic origin, whether from the gall-bladder or the ducts, occurs between the fourth and seventh hour after food. The pains are less regular in their time of appearance than those of pyloric origin. The pain is sometimes a little earlier, sometimes a little later, and it is rather lasting. There is not infrequently some temporary jaundice and a highly colored urine. Traumatic disease, tumor, or chronic inflammation gives rise to periodic delayed pain, which is sometimes accompanied by vomiting. In one case the pain was felt during several months three hours after food, and lasted an hour and a half. In another case it was set up by retention of the pancreatic secretion in Wirsung's duct and of bile in the cystic duct. Colic has been mistaken for pyloric ulcer because the pain came on regularly three hours after a meal. The passage of food into the duodenum is accompanied, in a great many persons, by a contraction of the ascending and transverse colon. This contraction is attributed either to a reflex action starting from the stomach, or to the internal secretion of a peristaltic hormone. Finally, renal colic, especially of the right side, is very frequently so timed as to be mistaken for pyloric pain. In calculus the kidneys become painful during the process of digestion, especially at the end of the digestion. A case is quoted where the pain occurred three to five hours after food. The actual site of the pain is of little help in diagnosis; pylorus, bladder, pancreas, colon are too near one another to get much help here. The article concludes with the chief points in the differential diagnosis from ulcer of the pylorus.—*The Universal Medical Record.*

PAIN FROM THE SURGICAL STANDPOINT

The following, also from French sources, compliments the foregoing in making pain the basis of diagnosis:

Picqué comments on the comparatively slight attention paid to pain by the surgeon, urging that study of the pain is liable to prove a useful guide in various ways. He states that he knows of only one article on pain written by a surgeon in recent years. Richet, the physiologist, to whom a Nobel prize has been awarded, declares that the capacity for feeling pain is more developed in proportion to the development of the mind, and he regards as the fundamental element in human progress. Piqué defines pain as generally merely the special perception of some peripheral organic trouble. As a rule, the comparatively insignificant lesions are the ones that induce the severest pains. By comparing the subjective with the objective findings it is possible to determine to what extent the mind participates in causing the pain. Championnièere has warned that the surgeon in his examination may create pain for the first time, and that once thus inaugurated, the pain may persist indefinitely. The questions of the physician are liable likewise to call pain into existence or first cause a realization of existing slight pain.—*Archives Générales de Chirurgie, Paris.*

SEVERE CRITICISM OF MEDICAL STUDY FOR WOMEN

In the course of some public lectures on the higher education of women, Professor Hochenegg, the director of the first surgical clinic in Vienna, gave publicity to his disappointment with the women who took up the medical career in this country. He severely criticized the lack of a sense of responsibility as well as the small amount of presence of mind at the commaand of female doctors. He is, therefore, of the opinion that there is no justification for females taking up this particular branch of study, and he pointed out that hitherto, although there are female doctors all over the world, not a single woman has been able to give to medical science anything really original or very important, and medicine has made large progress during the last twenty-five years only through men.

Naturally these statements aroused a storm of indignant protests on the parts of the doctors of the

"weaker sex" in this country. They justly contended that in hospitals female doctors had the same duties and responsibilities as their masculine colleagues, and they pointed out the examples of other countries, which they think show the fallacy of the professor's assertion. Nevertheless, they were not able to prove that female genius has made its impression on the progress of medicine, and this fact is cited as proving that there is something in Hochenegg's bitter words worth thinking about.—*Vienna Letter to J. A. M. A.*

It will be just as safe for the learned Professor to stay in the land he now ornaments for he would be decidedly unpopular in any English speaking country now steeped in ideas as to the superhuman attributes of the fair sex.

WHOM THE GODS WOULD DESTROY THEY FIRST MAKE MAD

In our last issue mention was made of the suite lately won by Dr. Lydston against the A. M. A. They, of course, explained the matter to their own satisfaction in the *Journal*, but the doctor has no journal so has to resort to the pamphlet. Dr. Lydston is something of a hornet when stirred up and places his sting in the spot where it will bring forth the loudest yelp. In part he says under the title given above:

I present the following to the profession merely as one standing on the side lines watching the passing show. In presenting it I entertain no hope of awakening the physicians of the country to a sense of their danger from medical despotism and trust-monopoly. Many years of hard and expensive endeavor have shown me that the average member of the profession is indifferent to everything save his own individual interests.

Five years ago the political Powers That Be sent from the throne on Dearborn avenue this message to the profession in answer to my expose of the putrid conditions that prevailed in medical Denmark:

"There's simply nothing to it. Everybody except Lydston is satisfied with conditions in the A. M. A."

Experience has proved that the oracle of Dearborn avenue was right. Certain persons were, of course, not satisfied to have certain other persons hold all the offices, otherwise there apparently was no complaint.

I will remark in passing that, in presenting this brief communication, I am not foolish enough to believe that the perusal of it will let the smallest ray of light into the thought chambers of those "insurgents" for place and power only, who consider that the end and aim of reform agitation are only to capture offices for themselves and their satellites. These gentlemen would not recognize a great principle if they met it in the street. Still less would these politicians sacrifice an office to the promulgation of a principle. "Let principles wait on offices," is their motto. Far be it from them to take a political whipping in order to emblazon a principle on the history of medical politics.

And so these gentlemen go empty-handed to state and national association meetings and empty-handed they return. They simply march up the hill and down again.

"But they get offices." Certainly, but we are discussing reform principles, not political offices, and one set of demagogues is as bad as another.

This is more than the opinion of "one standing on the side lines"; it is the opinion of one deeply versed in the politics of, not only offices but the actual success in professional life, which is wholly in the hands of the leaders and is handed down to the one fortunate enough to be chosen.

At the same time the doctor pays his respects to the newly organized College of American Surgeons which has been the cause of much controversy and more hard feelings than any other stunt of recent years put over by the gang. The first four stanzas are given to show that the doctor is a poet as well as a warrior and surgeon:

PINAFORE UP TO DATE

(Respectfully dedicated to Sir Bombasticus A. Byrdd, F. R. A. C. S. S. (Royal American College of Surgical Snobs), Sir C. Putting It Over-Smoothe, F. R. A. C. S. S., Sir O. Lord D. Liverus, F. R. A. C. S. S., and Sir B. Con-Bunke, F. R. A. C. S. S.

By G. Frank Lydston, M. D.

I.

When I was young I served h'a term
H'as a poor little fag of an 'ospital 'terne;
H'analyzed h'urine an' a 'ole lot more;
Did h'everything but sweep th' bloody floor.
I did me job with such faithfulness.
That now I h'am a Fellah of the h'A. C. h'S.

CHORUS

'E did 'is job with such faithfulness,
That now 'e h'is a Fellah of the h'A. C. h'S.

II.

I nevah got a chawnce to h'operate,
H'an' many a time I cussed me fate,
I 'itched me bloomin' drag to politics,
H'an' bally well showed 'em some bettah tricks,
I put it h'over with such clevahness,
That now I h'am a Fellah of the h'A. C. h'S.

CHORUS

'E put it h'over with such clevahness,
That now 'e h'is a Fellah of the h'A. C. h'S.

III.

H'if the othah fellah gets h'a case,
Look for the royal stamp h'on 'is face,
H'an' if 'e 'asn't got me seal h'on 'is mug,
Call for a bobby h'an' put 'im h'in the jug.
Then keep 'im h'in the vile duress,
To make 'im pay h'attention to the h'A. C. h'S.

CHORUS

Then keep 'im h'in the vile duress,
To make 'im pay h'attention to the h'A. C. h'S.

IV.

For many years I split me fee,
But the blawsted layman got h'onto me,
So I'm reformed h'an gettin' very good,
I'll make th' othah fellah be'ave as 'e should
The h'old, h'old game's played h'out, don'tcher see;
Climb h'aboard the wagon an' get yer degree.

CHORUS

The h'old, h'old game's played h'out, don'tcher see,
Climb h'aboard the wagon an' get yer degree.

BIGOTRY IN MEDICINE

Under this title, Otto Juettner in the *Eclectic Medical Journal*, pays his respects to a brother in the following robust language:

The August number of the *Medical Times* (New York) contains an article on "Therapeutic Pathies, Creeds and Sects, the Mushrooms of Scientific Medicine," by Anthony Bassler, M. D., Professor of Clinical Medicine in the New York Polyclinic Medical School, etc. The author who introduces himself to his readers as a "plain, blunt man who is deeply engrossed in matters pertaining to the physical welfare of the human being," with a stupendous degree of assurance rushes in where angels or rather where well-informed men would hesitate to tread. For the sak of the author his paper, in my humble opinion, should have remained unpublished.

* * * * * * *

Incidentally let me state that the learned gentleman who is responsible for the article in the *Medical Times* says "hydro-therapy" and not "hydropathy." It may have escaped him during his peregrinations in the fields of medical lore that there is a vast difference between hydro-therapy and hydropathy. The former is a legitimate method, the latter supposed to be an exclusive system. The former is an achievement of which modern medicine is justly proud, the latter a "pathy" in the sense which is so offensive to the finely responsive cuticle of Dr. B—— who condemns hydrotherapy with which some of the most distinguished names in modern medicine are identified. Dr. B—— says that he is just a "plain blunt fied. Dr. B—— says that he is just a "plain blunt man" who writes on the "right of the things I do know." This time he missed it. He is writing about things concerning which he knows nothing.

The aspersions cast upon suggestive therepeutics, electro-therapy and physio-therapy seem to affirm the statement which Dr. B—— makes in the beginning of his discourse. Suppose, just for the sake of argument, that we were to eliminate from modern medicine everything included under the head of physio-therapy, using the latter term in the sense in which well-informed men, *e. g.*, Riviere, Leyden, Solis-Cohen, etc., ordinarily employ it. How much would there be left of so-called modern or scientific medicine? We would have to eliminate dietics, personal hygiene, massage and other mechano-therapeutic methods, photo-therapy, electro-therapy, climato-therapy, radio-therapy, not to speak of thermo- and hydro-therapy. Add to this the newer branches of biologic medicine, like secro-therapy, which are also classified under the head of physio-therapy, and we can realize the extent of our learned author's summary condemnation.

* * * * * * *

Dr. B—— is rather careless in the use of the word "quack." No physician, irrespective of his therapeutic notions or methods, is a quack if he is sincere in his beliefs and honest with his patients. If a homeopath or an eclectic is a quack it is not his school affiliation that makes him such. If a "regular" is an honorable gentleman and a conscientious practitioner it is not the fact of his being a "regular" that make him such. There are fewer eclectics and homeopaths than "regulars" in the world, so it would seem reasonable to suppose that the number of quacks in the Regular School is larger than the number of homeopathic and eclectic quacks. It is just a matter of proportion. To consider men like Hahnemann, Hering, Wooster Beach, Rafinesque, Scudder and Curtis quacks and deceivers is more than ever Dr. B—— would be bold enough to venture in spite of the wonderful assurance which he shows in other respects.

* * * * * * *

In an analogous way some of the drugless cults of recent days have helped in the rational development of practical medicine, even if their influence was merely negative and in a sense destructive. The appearance of Osteopathy and Christian Science was a logical phenomenon which evolved from the failure of drugs to cure disease. The laity was tired of being dosed and receiving no benefit. They embraced the new cult with avidity, not because of any faith in the curative power of these cults but because the latter was something new and something that did not have the suggestion of "dope" contained in it. Osteopathy revived the study of anatomy; one of the lost arts. Christian Science emphasized the commanding position of suggestion as the greatest and most valuable therapeutic agent in the hands of the physician. Dr. Still and Mrs. Eddy were among the greatest benefactors of the medical profession, or rather of scientific therapy, because they compelled the profession in self-defense *to think*. This is what the average drug-doctor hardly ever does. The natural sciences have revolutionized therapy, and established the different mechanical and physical methods included under the head of physio-therapy. No one but a hopeless back-number can possibly be oblivious to these facts. Thus, Dr. B——'s paper unwittingly constitutes a most eloquent plea for higher medical education.

Just to show the point of view we give this from a review of the same article printed in the *Journal of Advanced Therapeutics*:

Bassler marshals an astounding array of "pathies" homeopathy, eclecticism, osteopathy, electrotherapy, Christian Science, emmanuel movement, hydrotherapy, chiropractics, viteopathy, magnetic healing, suggestive therapeutics, naturopathy, messotherapy, physiotherapy, etc.

He says that eclectic schools are so far below the standard that a slow eradication of this sect is inevitable, and then pays his respects to homeopathy, osteopathy and Christian Science. Hahnemann's book appeared in 1833, and a quotation reads: "The time healing art is that of intellectual offices incumbent on the higher human mind, and free powers of thought, discriminating and deciding according to causes," and also that "how to reach this result is taught by the homeopathic healing art." Another, "It was high time that God mercifully permitted homeopathy to be discovered," and Bassler adds, "Perhaps God should have hurried a little." He further says that "the advance of medicine has proven without a shadow of doubt that the bases of homeopatny are myths," and asks, "Where is the homeopath today who gives 1/1000 gr. morphine to allay pain?" It is rightly stated also that but for the coming along of surgery, which they reluctantly accepted, homeopathy would have died twenty-five years ago. The author states that the "campaign for the progress of osteopathy has taken place in lay journals and not along the lines of scientific criticism." He also makes note of the fact that a number of States have given osteopathy more or less favorable recognition, and that a number of uninformed literary people—Mark Twain, Opie Reed, Ella Wheeler Wilcox and Emerson Hough—have helped the cause, and, lastly, that a celebrated Governor of New York practically legalized it in the Empire State.

It must be almost worth the price to be an allopath and have that feeling of perfect satisfaction in being the only genuine article in the world of healing. It is always amusing to observe them and read their words of wisdom even if it is not true.

A TRAGEDY OF THE PANEL

An unfortunate event has occurred at the town of Wisbech in connection with the working of the insurance act. All the local physicians except two refused to work the act, and as two were not sufficient for the number of the insured persons a phy-

sician was imported for the purpose. This was resented by the local profession, who refused to meet him in consultation and boycotted him in every way. Feeling ran so high that he received three hundred anonymous abusive letters and post-cards, fifty on the day he arrived. His brass plate was repeatedly pulled down and defaced. He was repeatedly called on the telephone at night to distant cases which did not exist. But he became very popular with his patients and his practice became so large that he was overworked. Matters came to a crisis when at the instance of the president of the local branch of the British Medical Association he was arrested on the charge of criminal libel for sending an anonymous post-card. He emphatically denied the charge and bail was given. A few days later he did not get up at the usual hour and was found in his bed comatose. He died, evidently from narcotic poisoning; but whether he took the drug with suicidal intent or merely as a soporific has not yet been revealed. Public feeling in the town was aroused to an extraordinary extent. The people regarded his death as the result of persecution by the other physicians. A mass indignation meeting was held and after this crowds of workmen marched in procession to the house of the president of the local branch of the British Medical Association yelling and threatening violence if he showed his face. Stones were thrown at the windows and doors with destructive effect, and as each one crashed through the glass shouts of delight went up. After smashing all the windows and the front door the crowd marched to the house of another physician and smashed his windows. Extra police have had to be drafted into the town. Later a second attack was made on the house of the president, who telephoned for assistance from the police of the neighboring towns. All the time considerable damage was being done to his furniture. A daring attempt was made to rush his front door, which was barricaded, and shouts of "help him out! help him out!" came from the crowd. At this juncture the mayor arrived and attempted to read the riot act but the attitude of the crowd was so threatening that he had to depart. Not until police reinforcements arrived could order be restored. The latest news is that the president has left the town for an unknown destination.

This is from the London correspondent of the *J. A. M. A.*, and shows that medical practice is not a bed of roses even in England.

AS TO GUESSING

There is a man named Babson—Roger W. Babson—who lives at Wellesley Hills, Mass., and is known as a statistician and analyst of business conditions. Some of his conclusions apparently caused sharp criticism from a convention of medical men which declared he was only a guesser, and not a very good guesser at that. That peeved Mr. Babson a bit and he set out to learn how good the doctors are as guessers. What he undertook to learn was how well they fare in making diagnoses.

He says the records of a leading hospital in his own state were put at his disposal. These covered 2,500 post-mortem examinations, the results of which he compared with history blanks of the cases. This is what he says his study revealed to him as to correct diagnosis: "It is apparent that only a few of the most evident diseases exceed 75 per cent. in the hands of an experienced diognostician; many important diseases fall below 50 per cent. in recognition and some even below 25 per cent." Mr. Babson declared that in looking up appendicitis cases he found that in seventeen per cent. of the operations for appendicitis the post-mortem examination showed that the appendix was in perfect condition.

But even so, as a matter of guessing perhaps that is not such a bad showing. Instead of condemning the doctors, maybe we ought to congratulate them on doing as well as they have.—Editorial, *Buffalo Express.*

This sort of thing does not help the medical men in their effort to impress the public with their infallibility.

Correspondence

CHIROPRACTORS AS PLAGIARISTS

"He that cometh not in by the doorway into the sheepfold but climeth up some other way, the same is a thief and a robber."

Thus is the truth exemplified in Holy Writ. The imitator is found in all ranks of life, and as a rule, is of such character that he stoops to almost any level that his unrighteous purpose may be attained. The chiropractor has been changed many times with profiting by appropriating the osteopathic principle as a foundation for his work, but short of that generosity which acknowledges credit where due.

My attention has recently been called to one of the rankest examples of this kind yet produced. In a thirty-two page pamphlet, issued as "field literature" by one Frederick J. Macomber, Anderson, Ind., in January, 1912, entitled "The Spine: A Treatise on the Science of Chiropractic," is a general statement of the origin and development of this so-called school. If the word "osteopathy" were substituted for "chiropractic" throughout the magazine, it would not be dissimilar to much of the field literature of the osteopathic profession of a few years back, barring the date of discovery, (1895), and the name of the alleged founder (Palmer).

But the climax of unadulterated gall is exhibited on page 14. Under the caption "Scientific Proof of Effects of Subluxations," we find:

> "For six years Dr. Carl McConnell, of Chicago, and colleagues, have been experimenting upon animals to determine the truth or the falsity of the claim of Chiropractic that nerves, impinged at the spine by displaced vertebrae, were the most frequent cause of disease. Vertebrae have been slightly displaced under ether and the effects noted. Microscopic examination of specimens taken from the organs of the animals prove this conclusively."

Then follows a liberal quotation from Dr. McConnell's valuable research work in the artificially produced subluxations of the vertebrae of dogs, and the result of his study of the effects upon structure and function, with which we as a profession have become familiar. Nowhere in the magazine is a word connecting Dr. McConnell with the osteopathic profession.

Nor is it stated, or even hinted at, that he is demonstating the osteopathic claim.

"Who is "Dr. Macomber?" From a fellow townsman of his I learn that he was formerly engaged in the shoe business, but two or three years ago took the Davenport course in chiropractic, where he is alleged to have studied a few months; that "he knows absolutely nothing about any of the allied medical sciences. I doubt if he could name a single muscle. He hasn't even a common school education, and for him to claim authority on anything pertaining to anatomy is simply absurd."

M. F. Hulett, B. S., D. O.

Columbus, Ohio.

THE CALIFORNIA LAW AND ITS WORKINGS

We receive so many inquiries from all parts of the country concerning the new California law and the construction placed upon it by the Board of Examiners, that I am moved to answer through the Journal.

No school of practice nor medical association is responsible or was even influential in crystallizing the new law. Many demands were made on the legislature for legislation, by, first, physicians certified in other states but not in California, and, second, by chiropractors, naturopaths, and other practitioners not eligible under the old law.

The medical committee of the legislature was dominated by Representative Peairs, a druggist-lawyer. He conceived the idea of preparing an ideal law, but succeeded in passing in the last hours of the session, one which is such a departure from the beaten paths that it has proven very difficult to construe and to harmonize its many incongruities. It eliminates the American Medical Association and its course of study, by writing a complete course of study into the law. This course is patterned after the more advanced ideas of a thorough course of medical education, but is in a number of details unlike any course existing in the United States. Therefore, graduates of all medical and osteopathic colleges will have certain work to make up to conform to its requirements.

Most two-year graduates in osteopathy can qualify in time and subjects for the limited or drugless practitioners' certificate, by one term of special post-graduate study, and can qualify in time and subject credits for the unlimited or physicians' and surgeons' certificate, by nine months special additional course.

Three-year graduates, are, generally speaking, qualified for the drugless practitioners' examination; and can qualify for the physicians' and surgeons' unlimited examination by a special post-graduate course of one or two terms, depending upon the details of their previous course.

It is as yet very uncertain what will be the practical workings of the reciprocity features, since it is so complicated that hardly two of the members of the Board agree as to what is intended. All existing certificates, osteopathic and others, are perpetuated without limitation. As has already been published in the Journal, the Governor re-appointed only three old members of the Board, and two of these, Drs. Tasker and Vanderburgh, are the osteopathic members. The *Southern California Practitioners,* (which is the organ of the Southern California Medical Society) for November, 1913, has the following to say:

* * * "Drs. Tasker and Vanderburgh, the osteopathists, have been members of the California State Board for years and will be the dominating power. They are able, forceful and determined. In our experience of four years with them, we found them fair according to the law. That is the point all should remember. It is not—as members of a State Medical Board—to administer the laws as the individual member might wish it, but the aim should be to administer the law as it is written. If the law is wrong, then the enforcement of it will call attention to its defects."

This quotation from the official journal of the Southern California Medical Association shows something of the dignity and prestige that has been acquired for osteopathy in the state of California. The principal misunderstanding on the part of distant parties who are interested in the new law comes from the fact that they assume that the osteopathic physicians of California are limited to the drugless practitioners' certificate, and will therefore in the future, be unable to call themselves physicians or to practice surgery under its limitations, but the facts are that all of the osteopathic physicians now licensed in the state and all who care to qualify themselves by a very limited amount of special post-graduate preparation, will hold an unlimited "physicians' and surgeons' certificate" and be on a par with the representatives of any other system of practice. They are not less osteopathic physicians, nor will they be otherwise designated. The word "Osteopath" is not mentioned in the law, but neither is the word "Homeopath," "Eclectic," or "Allopath."

There are other states, notably Wisconsin, in which osteopathic physicians have fought their way to an equal standing in every respect, with any system of practice, and it is not improbable that in due time this will be true of all of the states.

A. B. Shaw, *D. O.*

Los Angeles.

(Dr. Shaw seems to rely on the local organ

of the A. M. A. for information as to whether or not the osteopathic profession in his state has or has not reached a stage of "dignity and prestige." According to our notion entirely too many osetopathic physicians think they have arrived only when a medical man tells them they have.

Our surmise is that the A. M. A. crowd believes they now have the osteopaths of the state where they will sink out of sight as "drugless practitioners" or come into good society as milk and water "physicians and surgeons." We say the A. M. A. crowd *thinks* so. We know that many of them, well grounded and efficient, will practice as consistent osteopathy under the new classification as under the old limitations; but unfortunately many of the new graduates and the lazy of the older, will turn mixers; the temptation is too strong. The A. M. A. crowd knows it has got our crowd divided, so no wonder it chuckles compliments instead of vomiting its wonted abuse. Verily, the osteopaths have "acquired something of dignity and prestige."

Then, when did Wisconsin become a model for all our legislative efforts? To our way of thinking, the best measure for the osteopath and the best for the public is one which requires that the osteopathic physician shall have been thoroughly schooled in osteopathy and be given a rigid but fair examination to test his knowledge and his ability, to apply the same and then require him to practice that and nothing else.—EDITOR OF JOURNAL.)

FROM THE PRESS BUREAU

At the instigation of the A. O. A. Press Bureau, the osteopaths of Toledo are getting splendid publicity by holding mass meetings in protest against a drastic order of the board of education for wholesale compulsory vaccination on a week's notice, or exclusion from school. Dr. L. C. Sorenson informed the Press Bureau of the order and instructions were immediately telegraphed from the bureau to him, resulting in action the very next day. The newspapers are giving big headlines to the protest.

The Press Bureau has accomplished much in many directions, but there are hundreds of practitioners who have not yet shown their desire to co-operate in the work by replying to the circular letter. The director trusts that this reminder will bring many answers.

Among the Societies

COLORADO.—The Colorado Association will hold its sixteenth annual meeting, Brown Palace Hotel, Denver, January 23rd and 24th, when specially low rates, on account of stock show, will be available from all points.

At 2.00 p. m. of the twenty-third, L. Von Horn Gerdine, of the American School, will discuss "Diagnosis and Treatment of Nervous Diseases." Clinics will be held in the afternoon and in the evening a public lecture by Dr. Gerdine, subject, "Osteopathy in the Treatment of Typhoid Fever," will be given in the same hotel.

The order of business for the morning of the second day will be a business session, followed by a second lecture on the "Diagnosis and Treatment of Nervous Diseases," by Dr. Gerdine.

So far as the JOURNAL recalls, Colorado has the oldest of the state organizations, and it is certainly one of the most wide-awake and active.

FLORIDA.—The Florida Association met in Jacksonville, January 26th, and after an interesting program, elected the following officers: J. C. Howell, Orlando; Vice-President, Sarah M. Davis, Palatka; Secretary-Treasurer, Grace Gould, De Land.

THE GULF STATES.—The Gulf States Society convened in annual session at Jacksonville, December 27th, called to order by the Secretary, A. E. Berry, Tampa. Sarah Wheeler of Lakeland presented Clinics and among the questions discussed were, "Pelegra," "Ground Itch," "Hook Worm," and other intestinal parasites; "Diphtheria," "Pelvic Tumors," "Blood Pressure," "Goitre," and other interesting subjects. Among those taking part in the discussion were Drs. Ida E. Bush, C. E. McKinnon, Larmoyeux and Lynch, Jacksonville; Ella X. Quinn, St. Augustine; Grace Gould, DeLand; J. C. Howell, Orlando; A. E. Berry, Tampa; Sarah Davis, Palatka; F. E. Keefer, Fitzgerald, Ga.; F. M. Turner, Savannah, A. L. Dikes, Bristol.

Every physician present became a member of the Association, paying the annual dues to the treasurer.

Officers elected for the new year: President, F. M. Turner, Savannah, Ga.; Vice-President, Sarah Davis, Palatka, Fla.; Treasurer, Ida E. Bush, Jacksonville; Secretary, F. E. Keefer, Fitzgerald, Ga. Time and place of next meeting is to conincide with the Georgia state organization.

ELLA X. QUINN, D. O., *Sec'y.*

ILLINOIS.—The January meeting of the Chicago Association was held, Hotel Sherman, January 8th. W. W. Stewart, Detroit, gave an interesting talk on the "Spine in General and the Cervical Lesions in Particular," and a comprehensive demonstration of Technique on clinic patients, illustrating his methods.

Resolutions were passed to authorize a canvass of the city for fake osteopaths, in order to put osteopathy on a more professional footing than it has recently enjoyed in the city

and state. R. D. Emery, of Los Angeles, spoke a few words on the legislative situation in that state, stating that there were five allopaths, two homeopaths, two osteopaths and one eclectic on the Medical Board, and that one of the osteopaths was the examiner in the "Practice of Medicine."

N. A. Hurd, D. O., *Sec'y.*

Iowa.—F. L. Taylor, President of Still College, on December 29th, opened what he proposes to make a Quarterly Surgical and Osteopathic Clinic. In this clinic members of the profession from Minnesota, Dakota, Nebraska, Missouri and out-of-town Iowa points were present. The session lasted from 9 a. m. to 5 p. m.

Kansas.—The next meeting of the Kansas State Board of Osteopathic Examiners will be held at National Hotel, Topeka, beginning 9 a. m., February 18th. For information address, F. M. Godfrey, D. O., Secretary, Holton, Kansas.

Maine.—The quarterly meeting of the Maine Association was held in Portland, January 3rd. T. L. McBeath gave an illustrated lecture, subject, "Pathology of Venereal Diseases," Business session followed by discussion was held in the afternoon. E. S. Winslow discussed "Adjustment of Old Subluxations."

Massachusetts.—The annual meeting of the Massachusetts Association was held in Boston, January 12th, with P. H. Woodall, President of the A. O. A., as guest. In the evening he gave a public lecture, which was well attended.

Officers were elected as follows: President, Geo. W. Reid, Worcester; Vice-President, Jno. A. MacDonald, Boston; Secretary, Mabel A. Langley, Boston; Treasurer, H. E. Wright, Malden.

The monthly meeting of the Boston Society was held December 13th, when the subject under consideration was "Routine Examination Procedure for the Detection of Organic Diseases." Main discussion was given by Mark Shrum, of Lynn, for "The Detection of Malignant Growths," and F. M. Vaughan, Boston, discussed "Blood Pressure, Nephritis, Microscopical Examinations, etc."

The society holds monthly meetings ten months of the year.

J. A. Mac Donald, D. O., *Sec'y-Treas.*

Nebraska.—The Nebraska Osteopathic State Board will conduct the next semi-annual examination, at the State House at Lincoln, on Wednesday and Thursday, February 4th and 5th, starting at 9 a. m. Wednesday morning.

Direct all communications to Dr. C. B. Atzen, 412 Omaha National Bank Bldg., Omaha, Neb.

Missouri.—The Northwest Missouri Association held its regular meeting at the Densmore Hotel, Kansas City, Mo., January 8th. Theodore Paul, Tarkio, read an interesting paper on "Diagnosis;" Nelle Ferry, Nevada, gave an exceptionally good osteopathic paper, entitled "Brass Tacks;" J. W. Parker, Kansas City, discussed "Neck Treatment and Throat Troubles." Dinner was served at 6.30 p. m., forty-five being present.

Program resumed at 8 p. m.: Corinne Larimore, St. Joseph, Mo., discussed "Sex Hygiene;" V. H. Greenwood, Ottawa, Kan., "Failures;" A. Still Craig, "Spondylotherapy." Meeting adjourned 10.30 p. m., to meet in Kansas City second Thursday in April.

Zudie P. Purdom, D. O., *Sec'y.*

The December meeting of the St. Louis Society was held at the home of Dr. Bertha Buddecke, in Kirkwood, where the members had been invited to partake of a turkey dinner. This was the annual business meeting and the following officers were elected for the ensuing year: President, Franziska Nickenig; Vice-President, Nannie J. Chappell; Secretary and Treasurer, Mathilda E. Loper.

Various topics of special interest were informally discussed, after which the meeting adjourned. Arlowyne Orr, D. O.,

Acting Secretary.

New Jersey.—The January meeting of the New Jersey Society was held in Newark, January 10th, when the principle feature of the program was a discussion of the treatment of Catarrhal Deafness following the Edwards Technique by D. Webb Granberry, of Orange. The attendance was very large and much interest was manifested in the discussion and demonstration of the technique upon a number of cases.

New York.—The January meeting of the New York City Society was held at the Murray Hill Hotel December 20th, when Harry Tipper was the guest and chief speaker, his topic being "Professional Efficiency."

At the January meeting, to be held in the same hotel January 17th, the program will consist of two addresses and demonstration: "The Sub-Mucous Operation—What it is and When Indicated," Joseph Ferguson, Middletown, N. Y.; "Catarrhal Deafness," D. Webb Granberry, Orange, N. J.

The Hudson River North Association held its December meeting on the 7th, Alice A. Brown, President, of Troy, presiding. A paper was presented by Elizabeth A. Frink, of Troy, and a program committee was appointed for succeeding meetings. The January meeting will be held with H. L. Owen, of Mechanicsville.

The December meeting of the Rochester Dis-

trict Osteopathic Society was held December 13, 1913, at the Rochester Club, Rochester. Following dinner, a Round Table talk was had and the members gave their favorite method of dealing with the every-day emergencies and the more common diseases. Arrangements were made to hold the January meeting in conjunction with the Western New York Osteopathic Society, the meeting to be held at Batavia.

The Rochester District Osteopathic Society met with the Western New York Osteopathic Association at Batavia, N. Y., January 10, 1914. At the afternoon session Dr. R. Kendrick Smith, of Boston, Mass., gave an address on Osteopathy, to which the public was invited. In the evening Dr. Smith addressed the Societies on "Orthopedics for the General Practitioner."

The meeting was held at the new Y. M. C. A. building and 300 attended the afternoon lecture. At 6.30 dinner was served by the ladies of the Y. M. C. A., at which fifty members of the profession expressed their appreciation of a meal served in a manner surpassing that of best hotels.

C. M. Bancroft, secretary of the Board of Censors, writes that the references made in the last issue to the chiropractic situation in New York does not do the society justice. He maintains that where the plan mapped out by the Board of Censors has been followed that convictions have been secured and he further states that the trials of the chiropractors referred to in the last issue in the Syracuse district were not a part of the activities in which the Attorney General had a part.

The JOURNAL is glad to know that convictions can be had under the New York law, as the state appears to be rapidly filling with irregular and unqualified practitioners, whereas under the ruling of the Board of Regents on educational qualifications, etc., comparatively few regularly graduated osteopathic physicians appear to be attracted to the state, and hence unless the influx of those who are defying the law is checked, in time they will out-number the well qualified osteopathic physicians of the state.

OHIO.—The annual meeting of the Ohio Society was held in Columbus, December 30th and 31st. Among the speakers were George M. Laughlin, of Kirksville, who demonstrated the "Reduction of Congenital Hip Dislocation," and Franck C. Farmer, of Chicago, who discussed "General Technique."

The following officers were elected: President, R. M. Sanborn, Akron; Vice-President, C. M. T. Hulett, Cleveland; Secretary, L. A. Bumstead, Delaware, (re-elected); Treasurer, F. E. Corkwell, Newark; Executive Committee, L. A. Miller, Cleveland; E. H. Calvert, Columbus; F. W. Long, Toledo; Member of State Examining Committee, M. F. Hulett, Columbus.

The Association also passed resolutions upholding the protest of more than 5,000 citizens of Toledo who had petitioned the Board of Education of that city against the order for compulsory vaccination of all school children in the city within a week.

PENNSYLVANIA.—The December meeting of the Philadelphia County Society was held in the Hotel Walton on December 18th. The speakers of the evening were H. Alfred Leonard and E. M. Coffee, both of the faculty of the Philadelphia college, their subjects respectively being "Osteopathic Doctors or Physicians—Which?" and "The Osteopath as a Local Practitioner."

SOUTHWESTERN.—The Southwestern Association met in Wichita, Kansas, December 29th and 30th, and the program as printed in the last issue was presented. From the newspaper reports the attendance was nearly 500 and a splendid meeting was held and excellent publicity was secured. Officers were elected as follows: President, H. M. Wallace, Blackwell, Okla.; Vice-President, E. F. Pellette, Liberal, Kan.; Corresponding Secretary, E. B. Waters; Convention Secretary, C. E. Willis, both of Wichita; Program Committee for next meeting; W. A. Mitchell, Enid, Okla.; P. W. Gibson, Winfield, Kan.; Millie Howell, Wellington, Kan. Among the well known osteopathic physicians who appeared on the program were: Drs. Jennette H. Bolles of Denver and C. B. Atzen of Omaha.

TENNESSEE.—The next regular meeting of the Tennessee State Board of Osteopathic examination and registration will be held in Nashville, February 13 and 14, 1914. Applications should be in by February 10th.

All communications should be addressed to the Secretary, DR. CAREY T. MITCHELL, 602 Hitchcock Bldg., Nashville, Tenn.

VIRGINIA.—The annual meeting of the Virginia Society was held in Richmond, December 13th, called to order by S. H. Bright, President, of Norfolk. The attendance was excellent and officers and committees were appointed as follows: President, Charles Carter, Danville; Vice-President, S. H. Beckler, Staunton; Secretary-Treasurer, W. D. Bowen, Richmond, (re-elected). E. H. Shackleford of Richmond was nominated to the Governor as osteopathic member of the state board of medical examiners, as under the law passed by the last legislature in 1914 the osteopathic profession of the state have a representative upon the State Examining Board.

Executive Committee, J. Meek Wolfe, Bristol; H. H. Bell, Lynchburg; G. E. Fout, Richmond; Legislative Committee, E. H. Shackleford, G. E. Fout, W. D. Bowen, all of Richmond; Judiciary Committee, L. C. McCoy, Norfolk; Harry Semones, Bristol; A. J. Snapp, Roanoke; Publicity Committee, S. H. Bright, M. L. Richardson, Norfolk; E. H. Shackleford, Richmond. The mid-year meeting will be held in Roanoke the second Saturday in June.

WASHINGTON.—The Doctors Ford were hosts for the December meeting of the King County Osteopathic Association. A full attendance was present, and delighted by Henrietta Crofton's paper, "Osteopathy and the Liver." Walter Jay Ford demonstrated technique in treatment of the dorsal region.

ROBERTA WIMER-FORD, *Cor. Sec'y.*

Governor Lister, of Washington, appointed on the new Medical Examining Board, J. E. Hodgson, of Spokane, and J. Leroy Walker, of Sunnyside, osteopathic members. When the board was organized, Dr. Walker was elected vice-president.

MANITOBA.—The Manitoba Association was organized at a meeting of the profession held December 27th in Winnipeg. In addition to adopting Constitution and By-Laws, the following officers were elected: President, Mary B. Cornelius; Vice-President, J. Harley Deeks; Secretary, G. Glenn Murphy; Treasurer, Walter Kuth; Members of Executive Committee, E. P. Ireland and Wade C. Harker.

G. GLENN MURPHY, D. O., *Sec'y.*

SASKATCHEWAN.—J. R. Witham, Regina, Sask., writes that in the closing scenes of their provincial parliament a bill was passed giving the osteopathic profession an independent board of registration and examination. He writes that it had been the intention of the government to put all professions, medics, dentists, lawyers, etc., under one board, but this was so strenuously objected to, that a measure was passed making the following provisions:

First, the Board consist of not less than three or more than five appointed by the Lieut-Governor in Council, the intention being, it is understood, to have a university representative on it, but no mention is made of a medical man and the term of appointment is not to exceed three years;

Second, the fee not to exceed $100 and examinations held in March and September in such subjects as the board may determine, subject to Lieut. Governor's approval;

Third, not allowed to give or prescribe drugs for internal use, or perform major surgery or any operation requiring use of knife;

Fourth, those practicing in the province at the time the act is passed must exhibit diploma satisfactory to the Board and pay a fee. Others must make affidavit that they have attended four full courses each at a college recognized by the Board before taking the examination. No mention being made of preliminary high school or college work.

Notes and Personals

A. O. A. PRESS BUREAU INSTRUCTIONS

No one article will suit all osteopaths or all editors, nor is it suitable for all localities. Therefore, you will sometimes receive articles which you do not like personally and do not care to use, or articles which do not apply to the legal situation in your state or town. In such cases you will understand the reason and will kindly return the articles in your next letter. Be sure to send clippings of articles used or the Bureau cannot send you more articles, as it is in ignorance of the result of the previous ones.

The Bureau wants suggestions, co-operation and contributions. It is difficult to start a new organization and mistakes will invariably occur, so we ask consideration and kindly criticism instead of knocking. Write often. Always enclose stamps. Inform us well in advance of coming events, always enclosing program; also tell us when you want any particular kind of articles. Address Dr. R. Kendrick Smith, 19 Arlington Street, Boston.

PUSHING THE LAY MAGAZINE

Dr. Franklin Hudson, Edinburgh, Scotland, recently sent out a number of letters to his patients suggesting the associate membership and a subscription to the *Osteopathic Magazine.* Within a few days replies were received from over ninety per cent. of those to whom he sent the letter, practically all of them expressing their appreciation of his calling their attention to it and further expressing their wish to have the magazine and become members in the associate organization.

Dr. Hudson suggests that if each osteopathic physician would do this that we could have an organization of at least a million and a half and a subscription list of equal size for the *Osteopathic Magazine.* As he well suggests, this means success to the magazine, success to publicity, success to thousands of suffering people, and none the less success to the general practice of osteopathy.

He further well suggests in a letter to the JOURNAL that it will require money to make an attractive appearing and highly useful magazine, but that the scheme was not launched to make money for the Association, but to put the money received back into the magazine. This view is absolutely correct for the intention is

as the means permit to both reduce the price and increase the size and efficiency of the magazine.

The magazine ought to double its subscription list each issue for the next six months.

GIVING CURRENCY TO SCANDAL

On December 7th, the *New York Herald* printed an article with display head lines featuring the fact that one Sarrizan of Pittsburg was a prominent isteopath, and had been before the courts charged with treating his female patients nude. Considerable effort was made to verify the *Herald* report, but it was found to have no foundation in fact. The *Herald* printed short statements refuting this from Drs. W. A. Merkley and R. K. Smith, but on investigation made largely by Dr. E. H. Hansen of Pittsburg, it was ascertained that the sensational part of the story was apparently written up in the *Herald* office. In the trial before the courts the man distinctly stated that he was not a physician of any kind, but a druggist and gave baths only. Dr. Hansen also found the newspaper representative of the *New York Herald* in Pittsburg and saw the report which the agency sent the *Herald,* which contained no references whatever to the man being an osteopath or claiming to be such.

It probably will be found that a good many such instances as this are written up for sensational purposes in utter disregard of the facts in case.

AN IMPORTANT APPOINTMENT

Governor Gynn of New York has appointed Dr. Herman M. Biggs, recently of the New York City Health Department, to the post of State Commissioner of Health. This office was created by the last legislature and becomes one of the most important medical offices in the United States. The commissioner receives $8,000 per year for a term of six years and will have the following appointments at his disposal: A deputy commissioner at $5,000, a secretary at $5,000 and nine division supervisors at $4,500 a year, besides almost innumerable county deputies and clerkships at salaries ranging from $2,500 to $3,500 per year. In addition to this, he will have the appointment of thirty-two supervisors throughout the state, each position paying $3,500 per year.

Dr. Biggs is an authority on health matters. If he uses his large powers entirely from a standpoint of health and does not play politics and build up the medical machine, he has a wonderful opportunity to show what, if anything, a state can accomplish by placing its entire health activities under one management. He also has great opportunities to fasten political medicine upon the people of the state. His decision as between the two will be watched with interest.

EUGENIC MARRIAGES IN WISCONSIN

As perhaps is generally known, a new marriage law went into effect in Wisconsin January 1st. The new act provides for physical examination by physicians of both contracting parties, and on the strength of the announcement by lawyers that the courts had recognized as a legal marriage any agreement between the contracting parties, a register of deeds in Dane county announces that he would record common law marriage contracts for ten cents each. He announces that "the doctors' $3.00 fee is unnecessary as well as the minister's fee, the registration of the contract alone being necessary as held by the courts."

In this connection it will be noted with interest that at the recent "Battle Creek Betterment Conference," Judge Linsley of Denver maintains that the so-called eugenic marriage laws will tend to produce rather than correct immorality, in that it will lead to the common law marriage rather than the legal form generally recognized in this country.

At the same conference, F. L. Hoffman, an authority on statistics, stated that the records for the civilized countries of the world showed a birth rate of 34 per thousand and a death rate of 25 per thousand, leaving an annual increase of 9 per thousand of population. The same authority maintained that in the past thirty years the death rate in England and Wales has decreased from 19 to 14 per thousand and that of Germany from 25 to 18 per thousand, and that of American cities from 23 to 16 per thousand.

DEATHS CHARGED TO VACCINATION

The health authorities of Michigan and Wisconsin have been exercised over a number of deaths among children recently vaccinated, most of whom died from what is commonly called tetanus and the physicians in attendance expressed belief that recent vaccinations were the cause. The death certificates, however, are reported to read: "Septic Meningitis."

How long will the states stand for this constanting recurring experience from vaccinating against smallpox, which disease nowadays is not very virulent or fatal in this country. Parents submit their children to vaccination because the school authorities in most cities won't permit them to attend public schools unless vaccinated at frequent intervals.

CHRISTMAS AT THE A. S. O. HOSPITAL

The Kirksville papers gave considerable space to the Christmas Day celebration in the A. S. O. Hospital, which it states is full to its capacity, keeping the twenty-two nurses on duty very busy. On Christmas Eve a Christmas tree celebration was held in the nurses home, when presents were distributed to the nurses. In addition to scores of packages re-

ceived from their homes, each of the nurses was given a remembrance from Miss Cora Gottreau, Superintendent, and Miss Story, Assistant Superintendent, also from Drs. Charles E. and George Still and Mr. E. C. Brott.

Presents for the patients were distributed on Christmas Day and all of the wards and rooms were made cheerful with cut flowers, green plants, etc.

VISIT INSANE HOSPITAL

About a dozen of the New York City physicians recently visited Kings Park State Hospital for the Insane on Long Island, which has about 4,000 inmates representing all forms of mental derangement. The case record system of the library furnished an example of thoroughness in this regard and was of especial interest to members of the party. The diet, hygiene and suitable occupation of the inmates was also of particular interest, the latter being an important feature in that it enables the institution to reduce the expense to about $200 per capita per year. The farm products and articles manufactured in the plant are valued at about $60,000 a year.

DR. DRAPER'S DEMONSTRATIONS

L. L. Draper, of Huntington, L. I., who has appeared before a number of the large association meetings of the East and is a regular contributor to the Technique Department in the Journal, is now conducting a class in which a number of the metropolitan district osteopathic physicians are members. The class meets in the offices of Norman D. Mattison, Aeolian Hall, W. Fort-second Street, New York, and great interest is manifested by those taking the work. The class meets weekly and the course is laid out to be covered in twelve or fifteen lectures and demonstrations.

WANTTS PATIENTS ADMITTED TO HOSPITAL

The Eastern Washington Osteopathic Association has asked the trustees of the Deaconess Hospital of Spokane to admit their patients to the hospital. Members of the profession state that the above named hospital is the only one in the city which makes this restriction, and until June of last year the osteopaths were permitted to treat their patients in the institution. The Board of Trustees puts the question up to the medical staff, and the medical staff puts it in the waste basket.

"HERALD OF OSTEOPATHY"

The *Herald*, for the past seven years conducted by Dr. A. L. Evans, made its appearance January 1st under the new management of Drs. G. W. Reid, Worcester, Mass., and F. P. Millard, Toronto, Ont., who are taking a deep interest in the magazine and promise if it is supported by the profession to make of it effective and high class educative literature. Announcements are made from month to month in the Journal.

MARRIED

At Ogden, Utah, on December 13th, Dr. Petrus E. Johanson, of Gooding, Idaho, and Miss Gertrude Stevenson, of Victoria, B. C. Dr. Johanson expects to locate in Evanston, Wyo., for practice.

At Fulton, Ill., December 26th, Dr. Ezra A. Freeman, of Lewiston, Me., and Miss Ada Snyder, of Fulton.

At Salt Lake City, Utah, December 6, 1913, Dr. Grace Stratton to Mr. Howard Airey, of that city. Dr. Grace Stratton Airey will continue practice in the Scott Bldg., Salt Lake City.

BORN

To Dr. and Mrs. George M. Laughlin, Kirksville, Mo., January 17th, a daughter.

To Dr. and Mrs. Morris M. Brill, New York City, December 17th, a son.

To Dr. and Mrs. M. A. English, Washington, D. C., October 23rd, twin girls.

To Dr. and Mrs. F. B McTigue, Charles City, Iowa, January 4th, a daughter.

To Dr. and Mrs. R. O. Dunn, Creighton, Neb., December 16th, a daughter.

DIED

At his home in New Milford, Pa., December 20th, Mr. James Casey, age 71, father of Dr. Eugene M. Casey, Binghamton, N. Y.

In St. Paul, December 5th, Dr. Alice M. Kelley, of that city. Dr. Kelley was upon the street making a professional call and fell and died without regaining consciousness.

December 26th, at Albuquerque, N. M., Dr. E. P. Dietzman, formerly of Racine, Wis. Burial was made at his former home, Platteville, Wis.

January 6th, at Annapolis, Md., Mrs. Elizabeth H. Ridout, mother of Dr. Eleanor R. Dashiel, of that city.

At her home, Pueblo, Colo., after a few hours' illness from appendicitis, Mrs. Mary Maddux, wife of Dr. W. S. Maddux, of that city.

At his home in Oakland, Cal., November 27th, Mr. A. S. Moon, father of Dr. Irma I Moon, of that city. Dr. Moon's grandfather died in September.

Died in his apartments in the Garrison Hall, Boston, January 3rd, Dr. John A. Barnes, of that city. Dr. Barnes, who was unmarried and about sixty years of age, lived in his apartments and his body was found by the janitor; the coroner pronounced death due to natural causes.

G. W. BUMPUS LOCATES IN DENVER

G. W. Bumpus has located in Empire Bldg., Denver, succeeding to the practice of J. T.

Bass, where he will give special attention to questions of diagnosis and medico-legal work. J. D. Baum succeeds Dr. Bumpus in East Liverpool, Ohio.

THE INTER-VERTEBRAL FORAMEN

Attention is called to the adv. in this issue of the book of the above title, recently issued by Dr. Harold Swanberg, a specialist in spinal and nervous diseases, of Chicago. The book contains an introductory chapter by Dr. H. F. Santee, author of the well known text, "Anatomy of the Brain and Spinal Cord." See announcement for other details of the work.

DR. HOLLIS IN MONTANA

A. S. Hollis, of the A. S. O. faculty, spent the holiday week with his former classmate, R. M. Wolf, Big Timber, Mont.

ARIZONA

Totten, C. H. (LA), Prescott
Wheaton, Chas. S. (LA) Bisbee.

CALIFORNIA

Axtell, Eudora (LA), B. Nat. Bank Bldg., Berkeley.
Bales, Grace M. (A) P. O. Bldg., Hanford.
Cross, Florence E. (SC) Cham. of Com., Pasadena.
Elliott, Walter B. (A) 611 American Ave., Long Beach.
Feather, H. R., 611 American Ave., Long Beach.
Holmes, Walter N. (N), Shavin Bldg., Pasadena.
Paull, G. G. (P), Granger Bldg., San Diego.
Veon, John E. (SC), Hopkins Bldg., Bakersfield.

COLORADO

Dickson, J. Homer (A), Harrison Blk., Canon City.
Hamilton, W. A. (S), Hotchkiss.
Titus, Franc C. (SC), 219 N. Weber St., Colorado Springs.
Wheelock, J. E. (A), Hillman Bldg., Delta.

CONNECTICUT

Wilcox, W. A. (A), Waterbury.

FLORIDA

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